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As part of the Climate Change and African Political Stability (CCAPS) program, a graduate student research team set out to examine how to effectively track development aid to Africa, develop a methodology to track climate change adaptation aid, and explore case studies about the challenges that African countries face when deploying aid resources to adapt to climate change.
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THE ROBERT S. STRAUSS CENTER™
FOR INTERNATIONAL SECURITY AND LAW

CCAPS
CLIMATE CHANGE
AND AFRICAN
POLITICAL STABILITY

# Climate Change and Development in Africa

## Student Working Paper No. 5

By Christine Ackerson, Emily Adams, Jon Arnold, Sarah Fiorenza, Hoor Jangda, Amy Knop-Narbutis, Vera Magero, Dylan Malcomb, Gigi Mao, Nancy Peek, Pace Phillips, Allison Ramirez, Valerie Schillaci, Jessica Tibbets, Kelly Usher, and Kathryn Yeager

Edited by Catherine Weaver and Christian Peratsakis

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## ABOUT THE CCAPS PROGRAM

This paper is produced as part of the Strauss Center's program on Climate Change and African Political Stability (CCAPS). The program conducts research in three core areas, seeking to investigate where and how climate change poses threats to stability in Africa, identify strategies to support accountable and effective governance in Africa, and evaluate the effectiveness of international aid to help African societies adapt to climate change. The CCAPS program is a collaborative research program among the University of Texas at Austin, the College of William and Mary, Trinity College Dublin, and the University of North Texas.

The CCAPS program is funded by the U.S. Department of Defense's Minerva Initiative, a university-based, social science research program focused on areas of strategic importance to national security policy. Through quantitative analysis, GIS mapping, case studies, and field interviews, the program seeks to produce research that provides practical guidance for policy makers and enriches the body of scholarly literature in this field. The CCAPS team seeks to engage Africa policy communities in the United States, Africa, and elsewhere as a critical part of its research.

## ABOUT THE STRAUSS CENTER

The Robert S. Strauss Center for International Security and Law at the University of Texas at Austin is a nonpartisan research center that engages the best minds in academia, government, and the private sector to develop unique, policy-relevant solutions to complex global challenges.

## ABOUT THE AUTHORS

Christine Ackerson, Emily Adams, Jon Arnold, Sarah Fiorenza, Hoor Jangda, Amy Knop-Narbutis, Vera Magero, Dylan Malcomb, Gigi Mao, Nancy Peek, Pace Phillips, Allison Ramirez, Valerie Schillaci, Jessica Tibbets, Kelly Usher, and Kathryn Yeager wrote this paper as Master of Global Policy Studies students at the LBJ School of Public Affairs. This graduate student work is based on collaboration with CCAPS researchers as part of a year-long Policy Research Project course taught by Catherine Weaver at the LBJ School of Public Affairs in the 2010-11 academic year. Authors are listed in alphabetical order.

## ABOUT THE EDITOR

Dr. Catherine Weaver is Associate Professor at the LBJ School of Public Affairs and Distinguished Scholar at the Robert S. Strauss Center for International Security and Law and the University of Texas at Austin.

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# EXECUTIVE SUMMARY

Developed countries have pledged billions of dollars to help developing countries adapt to climate change. Tracking this aid is increasingly important as governments fulfill their promise under the United Nations Framework Convention on Climate Change (UNFCCC) to provide $30 billion in the short term and mobilize another $100 billion per year by 2020 to developing countries for mitigation and adaptation.[1] Yet, how do we know if the promises to donate billions of dollars are being kept and if that money is going to the countries that need it the most?

As part of the Climate Change and African Political Stability (CCAPS) program, a graduate student research team set out to examine how to effectively track development aid to Africa, develop a methodology to track climate change adaptation aid, and explore case studies about the challenges that African countries face when deploying aid resources to adapt to climate change.[2] This report consists of three chapters:

- The first chapter, *Measuring International Development Assistance for Climate Change Adaptation in Africa*, discusses the overall landscape of climate change adaptation aid to Africa, describes the CCAPS adaptation aid coding methodology, and illustrates key challenges to tracking adaptation aid.
- The second chapter, *Climate Change and Aid in Malawi*, examines Malawi's progress and challenges in aid transparency, capacity building, and coordination of international finance with regard to climate change adaptation efforts in Malawi.
- The third chapter, *Climate Change and Aid in Ethiopia*, focuses on climate change adaptation projects in Ethiopia and the coordination efforts of donors, the Government of Ethiopia (GoE), and NGO recipients in Ethiopia.

This study found that approximately $184 billion in international development aid was committed to Africa between 2005 and 2008.[3] Roughly $1 billion of this aid was spent on projects defined as climate change adaptation (representing 0.6 percent of all aid to Africa between 2005 and 2008). Of the 130,494 international development aid projects funded on the African continent during this time, there were 763 projects (also 0.6 percent of all projects) targeted to climate change adaptation.

This assessment shows emergent trends in the landscape of climate change adaptation aid to Africa. However, it is not possible to definitively answer how much adaptation aid is going to Africa without a stronger consensus on a definition of climate change adaptation and better mechanisms to track climate change aid at the project level. This report outlines challenges in more depth and suggests steps to significantly improve the ability to accurately track aid targeting climate change adaptation.

# CHAPTER 1

## Measuring International Development Assistance for Climate Change Adaptation in Africa

*By Christine Ackerson, Emily Adams, Jon Arnold, Vera Magero, Amy Knop-Narbutis, and Pace Phillips*

Climate change is widely recognized as one of the leading environmental challenges for present and future generations. The adverse consequences of climate change tend to disproportionately affect poorer communities and developing countries that are least able to cope and adapt. In Africa alone, scientists estimate 75 to 250 million people will experience increased water stress by 2020.[4] Sea-level rise will affect low-lying coastal areas with large populations, and yields from agriculture could be reduced up to 50 percent, exacerbating food security and malnutrition.[5] Changes in average temperatures can also contribute to the increased likelihood of diseases such as malaria. Likewise, climate change can promote resource scarcities that can lead to conflict and migration. In response to the negative effects of climate change, wealthier countries are pledging billions of dollars each year to help poorer countries reduce vulnerability.

Despite these commitments by developed countries, important questions remain. Where exactly are these funds going? Which countries are receiving the most aid and from which donors? Through primary and secondary research, this study attempts to track climate adaptation aid to Africa and, in doing so, identifies challenges to tracing this aid flow.[6] This analysis contributes to the current literature in two significant ways: 1) Identifying which countries in Africa are receiving international aid to adapt to the effects of climate change, and 2) Elucidating key difficulties in determining the amount of international aid actually spent on climate change adaptation projects in Africa.

This study reaffirms the need to not only develop and implement better mechanisms to track climate change aid, but also the need for consensus on a definition of climate change adaptation so that such finances can be mobilized and used more effectively. This assessment conducted the following:

- Estimated the amount of international aid flows to Africa for adaptation, and identified the specific multilateral and bilateral agencies that are the major donors for aid for adaptation projects in Africa;
- Identified key data problems with respect to the quality and consistency of aid reporting standards across various sources, and key gaps in data resources;
- Completed three in-country visits to Kenya, Ethiopia, and Malawi to gain a better understanding of the challenges of aid delivery and implementation, and country-driven efforts to address climate change adaptation;
- Attained familiarity with emerging methods for geocoding international aid flows and used these mapping techniques to track international aid commitments where sufficient information on aid activities exists;
- Developed two analytical case studies on Malawi and Ethiopia to illuminate progress and challenges with respect to aid transparency, accountability, and coordination of climate change adaptation and mitigation aid in Africa; and
- Explored ways to improve the process of tracking climate change aid.

### METHODOLOGY

In order to explore the amounts, types, and distribution of development assistance addressing climate change in Africa, the authors used three main methods: climate change adaptation coding, geomapping of international development project documents, and interview-based case studies. By integrating these methodologies, the research team was able to gain a better understanding of the landscape of climate change adaptation aid to Africa.

**Climate Change Adaptation Coding**

Prior to this study, a comprehensive study of project-level aid flows specific to climate change adaptation from all public international aid donors to Africa did not exist. However, this study is not the first to use adaptation coding to gain an understanding of climate change aid flows. The methodology presented here is informed by previous work by the World Resources Institute (WRI), Roberts and Peratsakis, Michaelowa and Michaelowa, and the Organisation for Economic Co-operation and Development (OECD).[7] While previous coding studies were limited in scope, this research builds on their work by examining all public aid flows to Africa. For example, the work of Roberts et al. was confined to the United Kingdom's Department for International Development (DFID).[8] Michaelowa and Michaelowa only coded OECD bilateral programs.[9] The OECD looks solely at mitigation (the OECD has only recently begun to track data for their adaptation marker, which became available in 2011).

A combination of human and advanced computer identification methodologies were used to narrow the number of development projects down to only those likely to address climate change.[10] The CCAPS research team systematically classified all development assistance targeted to climate change mitigation or adaptation given to African states between 2005 and 2008, which were the most recent data publically available. Development assistance included aid from all official aid donors (Development Assistance Committee members of the OECD, or OECD-DAC) as well as non-official bilateral and multilateral donors found in AidData. AidData, established in 2009, is a comprehensive initiative that seeks to capture the universe of development finance and foreign aid.

This study accounts for aid coming to Africa from 72 multilateral and bilateral donors, but does not account for private, nongovernmental, or faith-based aid flows. Bilateral aid is aid given by one country to another in the form of cash, concessional loans, or various other types of support. Multilateral aid, on the other hand, is aid from international organizations, such as the United Nations or the World Bank. Because international organizations are financed by their member states, individual countries often give more climate change aid than can be attributed to them in this study. For example, though the U.S. gives money to the World Bank, and the World Bank gives Ethiopia aid for adaptation, this study counts that aid as donated by the World Bank and not the U.S.

AidData's database provides project-level data on aid from over 90 bilateral and multilateral donor organizations, including many excluded by the OECD-DAC's Creditor Reporting System (CRS). However, AidData still relies on the CRS for collecting many of its project descriptions, which are limited in length to around 250 characters. The CCAPS team chose to use these limited descriptions because using the full project documents would significantly increase the amount of time and resources required to carry out research tasks. In addition, gaining access to the original project documentation from all donors is infeasible, as nearly all bilateral and multilateral donors, with the exception of the World Bank, do not yet make all their project documents publicly available.

The CCAPS team analyzed 130,494 projects to Africa from the AidData database, totaling over $184 billion in committed aid between 2005 and 2008, to assess the feasibility and utility of the team's adaptation coding methodology. A computer query identified projects containing key terms associated with adaptation (such as "climate" or "resilience") and these projects were then hand-coded by the research team for their relevance. The combined human-computer identification methodologies resulted in over 4,000 potential development projects. The research team compared the project descriptions provided in AidData's database with five adaptation-reporting schemes that were identified by Roberts and Peratsakis in their Climate Adaptation Coding codebook (see Table 1).[11] This study defines adaptation projects as those that meet at least one of the criteria for adaptation projects described in the different coding schemes.[12] These reporting schemes were taken from published literature from leading experts in the field, official adaptation language from the OECD, and development agencies' own attempts to track and identify adaptation aid.

Table 1 shows the number of projects coded as adaptation under each scheme and provides a brief description of the schemes. There is notable variation between schemes based on the different approach or purpose employed to define climate change adaptation. The coding experience of the CCAPS team reinforces the issues raised in current literature on adaptation aid, including the difficulty of defining climate change and the need to reach consensus on a definition.[13]

*Table 1. Number of Projects Defined as Adaptation Per Coding Scheme*

| Coding Scheme | Description | Number of Projects Meeting this Description |
|---|---|---|
| OECD Draft Adaptation Marker | The OECD's Creditor Reporting System asks donor nations to capture projects that intend to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks by maintaining or increasing adaptive capacity. This encompasses a range of activities from information and knowledge generation, to capacity development, planning, and the implementation of climate change adaptation actions. | 568 |
| Planning & Action (Roberts et al., 2008) | This scheme accounts for the type of action that was taken to combat climate change. Adaptation projects include policies or actions designed to prepare for or cope with the effects of climate change. Adaptation projects are defined into three specific subcategories: studies and plans, specific action, or natural disaster prevention. | 617 |
| World Resources Institute | Based on a review of 135 cases in their database, researchers from WRI identified three "models" of how adaptation and development objectives coincide based on their purpose, including "serendipitous" adaptation, climate proofing of ongoing development projects, and explicit adaptation activities. | 394 |
| United Kingdom Department for International Development (Vernon, 2008) | DFID describes adaptation as integral to and indivisible from development. It asserts that good development practice is the best way to deliver adaptation by increasing the resilience and capacity to manage the impacts of a changing climate. This scheme is broken down into criteria that define projects as good development practice, climate proofing, expanding climate-relevant development, or undertaking climate-specific measures. | 555 |
| Least Developed Countries Position (lesotho and LDCs, 2009) | Based on a plan submitted on behalf of the Least Developed Countries (LDCs) pertaining to adaptation action, this scheme states "adaptation actions must [therefore] focus on enhancing resilience of developing countries at various levels, including communities, local and central governments and [the] national economy." This scheme includes subcategories to measure immediate versus medium and long term adaptation measures, capacity building and information, early warning systems, information and weather dissemination, and integrating climate change adaptation into development planning. | 589 |
| Total Adaptation Projects | The number of projects coded that met at least one of the criteria listed in the five schemes above. | 763 |

*Source: Descriptions extracted and summarized from "Codebook: Climate Adaptation Coding," created by Timmons Roberts, Brown University, and Christian Peratsakis, The University of Texas at Austin.*

### Geomapping Adaptation Aid

A picture is worth a thousand words, and for the international aid community, a map is the best picture available. A map depicting locations of active projects with a searchable and easy-to-use interface can show donors and recipients more information in a brief glance than they could decipher from hundreds of documents. Geocoded aid projects could help donors and recipients coordinate their efforts to ensure that aid goes where it is most needed. While adaptation coding identifies the number and type of adaptation projects going to a country, coding alone does not determine if aid flows are correlated to the areas that need aid the most. To address the distribution of aid at a subnational level, the research team relied on geomapping, a relatively new tool that is available to donors and recipient countries.

In order to better understand where aid is going in Africa, this study expands on the geocoding work of AidData and the World Bank, as well as the work of CCAPS researchers to produce maps displaying subnational measures of climate vulnerability.[14] This team used geocoding to map the location of adaptation projects funded by international development assistance across Africa at a subnational level. AidData and CCAPS had access to project documents from the African Development Bank (AfDB) for the purpose of geocoding active aid projects. CCAPS is currently collecting documents from other donors to replicate the World Bank and AfDB maps for a larger set of aid donors across the continent. This will be the first effort to track aid flows across all official aid donors.

### Interviews and Case Studies

To gain a better understanding of the challenges of aid implementation and country-driven efforts to address climate change adaptation, research teams performed three in-country visits to Nairobi, Kenya; Addis Ababa, Ethiopia; and Lilongwe, Malawi. Malawi and Ethiopia were selected as case study countries to gain a better understanding of the critical links between vulnerability, the aid landscape, and government capacity to address climate change. The case studies explore key obstacles each country faces in responding to climate change in a timely and effective way, and the actions underway to overcome these challenges. The research team conducted interviews with government officials and representatives of international NGOs in Washington, DC and New York, New York.[15]

## RESEARCH RESULTS AND FINDINGS

Relying on the coding methodology outlined above, this research calculated a total of $184 billion in international development aid commitments to Africa between 2005 and 2008. Slightly over $1 billion of this aid was for adaptation to climate change by a narrow definition, or just over 0.6 percent of official development assistance. Of the 130,494 international development aid projects funded on the African continent during this time, there were 763 projects targeted to climate change adaptation. While this research is limited by a general scarcity of information about each aid project, the results give insight into who are the major adaptation aid donors, which countries are the primary beneficiaries, and how donors are responding to the threat of climate change.

The total dollar amounts, the total number of projects, and the percentages of all aid that contributes to adaptation all give insight into "how much" aid is going to each country. This section will present the data in a variety of ways to give a more nuanced perspective of the flow of adaptation aid. Overall, the data show that the amount of adaptation aid going to Africa is increasing year after year, but the amount of adaptation aid given to African countries is very unevenly distributed.

### Change over Time

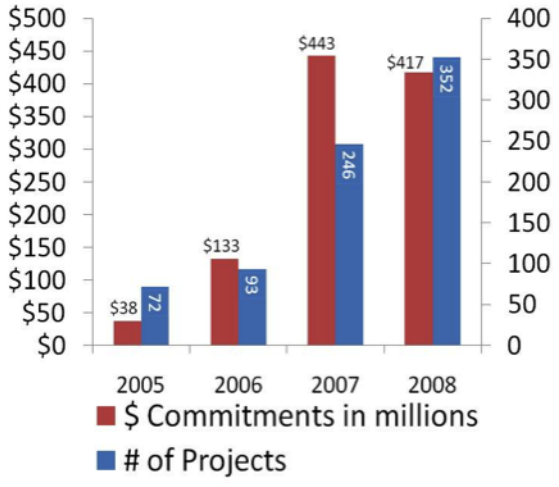
The results show that, between 2005 and 2008, less than one percent of the international aid to Africa targeted adaptation to climate change. Although the amount of all aid fluctuated during this time, there was a clear trend

of increased commitments for adaptation aid (see Figure 1). This is not surprising considering the growing focus on climate change within the international development community.[16] In each consecutive year, on average there is an increasing percentage of aid that goes for adaptation, both in terms of the number of projects and total dollar amount. Since the total aid to Africa is not expanding, there is a diversion of aid out of other sectors and into climate change adaptation.

Currently, there is a debate about the driving force behind the increase in adaption aid to Africa. The optimistic explanation is that this increase is a reflection of the growing concern by donor governments about the effects that climate change will have on Africa. Donors change their aid portfolios in response to actual or perceived needs of countries in order to increase poor countries' resilience to climate change. The more cynical explanation for the increase is that this rise is a repackaging of aid, where projects formerly described as 'increasing agricultural productivity' become 'increasing agricultural productivity under climate change.' According to this explanation, donors are merely attaching the climate change label to projects because it is the current development fad, but there is no actual change in the types of activities that donors are undertaking. This study found evidence to support both explanations.

In Figure 1, there is a noticeable difference between the increase in the amount of adaptation aid committed each year and the number of projects committed. This is because one expansive multi-sector project in Ethiopia, worth $145 million, largely accounts for the high overall amount of African adaptation aid in 2007. Projects like the Ethiopian multi-sector project are evidence that this study's estimates for the dollar amount of adaptation aid are likely skewed. In the case of the large Ethiopian project, the entire $145 million was counted toward adaptation, even though only a small portion of the funds were likely adaptive by the coding schemes. This study was not able to determine what portion of each project went to which activity from the short project descriptions used to code. For example, some large infrastructure projects combine activities like road construction, bridge building, and flood prevention. In such cases, this research would code the project as adaptive for the flood prevention component, though that may only represent a small portion of the total costs.

*Figure 1. Climate Change Adaptation Aid to Africa*




*Note: A multi-sector project in Ethiopia, worth $145 million, largely accounts for the high overall amount of African adaptation aid in 2007. Projects like this are evidence that the estimates for the dollar amount of adaptation aid are likely skewed. This research study counts the entire $145 million toward adaptation, even though only a small portion of the funds were likely adaptive by the coding schemes.*

Detailed budget documents, which are often not available or require a refined green accounting mechanism for discerning specific levels and types of adaptation funding, are needed to accurately divide projects into the parts that target adaptation. To date, only the World Bank has such a system in place for reporting the percentage of a project that addresses climate-related activities.

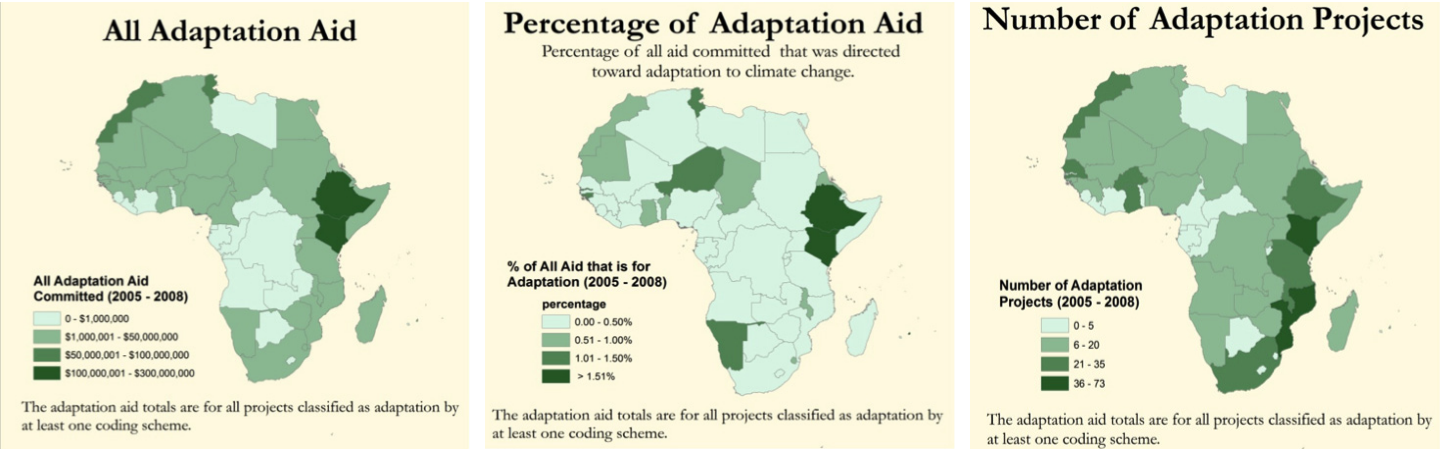
Since the dollar amounts are inflated in many cases, the number of projects may be a more accurate estimate of the extent of adaptive efforts across the continent. Similar to the total amount, the number of projects directed to climate change adaptation increased from 2005 to 2008, from 72 to 352 projects per year. However, the number of projects experienced a much smoother increase over the four-year period. The steady increase of adaptation projects corroborates the findings from the interviews conducted, where many aid organizations noted the increased focus on climate change in the development community.

**Differences between Recipients**

Across Africa, there is a large variation in the amount of adaption aid received by each country (see Figure 2), at least when measured at the aggregate project level according to the methodology used in this study. At the top end of recipients is Ethiopia, which received more than $280 million in what donors defined as "adaptation aid" over the four years. By this definition, Ethiopia captured more than 27 percent of all adaptation aid to Africa. In contrast, there were 17 nations that each received less than a million dollars of what donors defined as "adaptation" assistance during the same period. These 17 recipients include Zambia, Sierra Leone, Botswana, and the Democratic Republic of Congo, some of which are notably vulnerable to climate change by many assessments. For example, Busby, Smith, and White identify the Democratic Republic of Congo as extremely vulnerable to climate change, while they conclude that Kenya is less vulnerable relative to other African states.[17] Though there is no clear answer to what countries are most vulnerable to climate change, it does not appear that we can explain the stark differences in the amounts of adaptation aid between countries by the degree or nature of vulnerability.

Furthermore, the amount of adaptation aid a country receives is not merely a function of the amount of overall aid received. This research finds that the amounts of total development aid and adaption aid a country receives are only loosely correlated.[18] In other words, many of the countries that receive little adaptation aid receive large amounts of general development assistance and vice versa. Figure 2 provides a visual representation of the total adaptation aid received by countries in Africa, as defined by at least one of the coding schemes.

*Figure 2. Amount of Adaptation Aid by Country*




The number of adaptation projects committed to each country, rather than the total amount committed, tells a different story. The number of adaptation projects is more evenly distributed between countries. Also of note, the recipients of the most aid in dollar terms did not necessarily receive the most number of projects. The mismatch between the countries that receive the most projects with adaptation components and those that receive the most money for adaptation is due to the differences in the size and type of projects funded in each country. For example, infrastructure projects, such as building seawalls, are much more expensive than climate change educational projects. The countries that received the most adaptation aid all had large-scale projects that accounted for a significant portion the adaptation aid they received.

While the amount of total international development assistance a country receives was only loosely correlated with the amount of adaptation aid, the number of adaptation projects and the total number of aid projects are much more closely correlated.[19] In other words, the total number of projects committed to a certain country is a good predictor of how many adaption projects that country received, but the total dollar amount of aid committed to a country is not a good predictor of how much adaptation aid a country receives. This means that some countries that do not receive much aid overall receive a lot of adaptation aid and vice versa.

Table 2 lists the top ten recipient countries in Africa for both international development aid and aid identified as addressing climate change adaptation. Five of the recipients appear in both lists, with Nigeria being the recipient of the most international development aid and Ethiopia receiving the largest share of aid identified as targeted to climate change adaptation. Interestingly, countries receiving the most aid for adaptation do not necessarily have the most number of adaptation projects. For example, although Ethiopia is the largest recipient of adaptation aid in monetary terms, there are more than two times the number of adaptation projects in Kenya. This is largely a product of a few big projects in Ethiopia with adaptive components.[20] As shown in Table 2, "Africa, Regional" had the highest percentage of overall development projects focused on climate change adaptation.[21]

*Table 2. Top Ten Recipients of Official Development Aid in Africa*

| Recipient | Total Aid Commitments (USD 2000) | Total Adaptation Aid Commitments[1] (USD 2000) | % of Total Aid Committed for Adaptation within that Country | % of Adaptation Aid Committed to Africa |
|---|---|---|---|---|
| Nigeria | 20,620,844,715 | 4,027,440 | 0.02 | 0.39 |
| Egypt | 10,764,369,570 | 7,362,530 | 0.07 | 0.71 |
| **Ethiopia[2]** | **9,293,069,574** | **280,959,940** | **3.02** | **27.28** |
| Morocco | 9,065,423,764 | 58,531,558 | 0.65 | 5.68 |
| Tanzania | 8,644,283,878 | 8,136,566 | 0.09 | 0.79 |
| Sudan | 7,459,142,034 | 3,534,992 | 0.05 | 0.34 |
| Africa, regional | 7,163,701,878 | 133,895,802 | 1.87 | 13.00 |
| Dem. Rep. Congo | 6,799,921,494 | 749,506 | 0.01 | 0.07 |
| Mozambique | 6,594,654,569 | 24,805,904 | 0.38 | 2.41 |
| Ghana | 5,819,431,963 | 38,089,175 | 0.65 | 3.70 |

*Top Ten Recipients of Climate Change Adaptation Aid in Africa*

| Recipient | Total Aid Commitments (USD 2000) | Total Adaptation Aid Commitments (USD 2000) | % of Total Aid Committed for Adaptation within that Country | % of Adaptation Aid Committed to Africa |
|---|---|---|---|---|
| Kenya | 5,762,483,132 | 162,658,710 | 2.82 | 15.79 |
| Africa, regional | 7,163,701,878 | 133,895,802 | 1.87 | 13.00 |
| Tunisia | 4,960,265,420 | 73,691,021 | 1.49 | 7.16 |
| Morocco | 9,065,423,764 | 58,531,558 | .65 | 5.68 |
| South of Sahara, reg. | 5,140,156,937 | 50,910,127 | .99 | 4.94 |
| Ghana | 5,819,431,963 | 38,089,175 | 0.65 | 3.70 |
| Mozambique | 6,594,654,569 | 24,805,904 | 0.38 | 2.41 |
| **Malawi** | **2,823,209,261** | **23,312,579** | **0.83** | **2.26** |
| Niger | 2,022,455,870 | 20,944,342 | 1.04 | 2.03 |

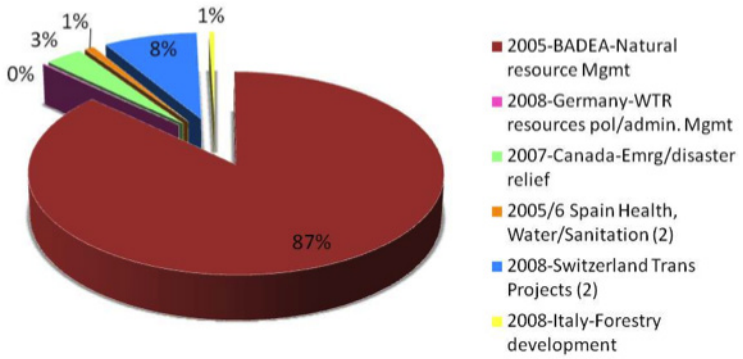
1 *As defined by any of the coding schemes in Table 1.*

2 *Countries in bold represent case study countries in this study.*

In many cases, the majority of a country's adapation aid can be attributed to a small number of projects, or even a single project. The distribution of projects in Chad is fairly typical of other countries on the continent, with multilateral donors tending to fund the large nationwide projects and bilateral donors funding many small projects. For example, from 2005 to 2008, Chad received a little over $11 million in assistance for adaptation, $10.5 million of which is from one natural resource management project funded by the Arab Bank for Economic Development in Africa (BADEA) (See Figure 3).

Since only short descriptions of projects were available for coding purposes, and there was no access to line item project budgets, this research considers the entire BADEA as directed toward adaptation. In reality, only part of this large project is likely to have been directed at adaptation. Many of the more expensive projects include numerous initiatives wraped into one funding source. To get a more accurate estimate of the amount of adaptation aid, donors need to develop clear and transparent green accounting systems, where they indentify the portion of project budgets that go to climate change.

*Figure 3. Adaptation Aid to Chad by Donor*

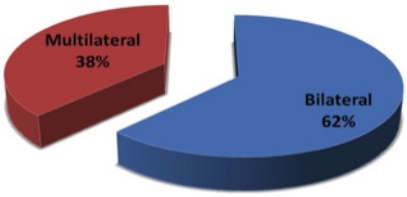



**Differences between Donors**

Of the 68 donors that gave money to Africa between 2005 and 2008, only 37 donors had projects directed towards climate change adaptation. The top three donors accounted for more than 60 percent of all adaptation aid given to Africa, and the top 10 donors accounted for over 80 percent. There is great variation in the number of projects donors undertake and the amounts that they committed (see Table 3).

The biggest donors of climate change adaptation aid consist of well-known donors such as the World Bank's International Development Association (IDA) and the United States, and also smaller donors like the Global Environment Facility (GEF) and the World Bank's Carbon Finance Unit. Though large donors like the IDA and United States only direct a small percentage of their total development aid to adaptation efforts, they give a large amount of adaptation aid relative to other donors because they give so much aid in monetary terms. For smaller donors like GEF and the Carbon Finance Unit, their aid portfolios are more narrowly directed at projects that are related to the environment and climate change. Therefore, although these organizations are not big donors overall, they are major players in the climate aid arena because they direct a large percentage of their total aid to climate change adaptation.

*Figure 4. Percentage of All Aid to Africa by Donor Type*




*Percentage of Adaptation Aid to Africa by Donor Type*

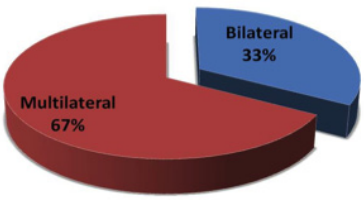



Figure 4 shows the percentage of aid to Africa from multilateral and bilateral sources. Multilateral organizations give the majority of adaptation funds to Africa, and almost all of the donors that give the largest percentage of their aid portfolios to adaptation projects are multilateral organizations. Multilateral and bilateral donors face different incentives for giving aid One possible explanation for why multilateral donors give the most adaptation aid is because these

donors, notably the World Bank and the United Nations, are also very involved in facilitating the global climate negotiations through the UNFCCC. Since these donors are pushing the climate change agenda forward, they are more likely to also work on addressing climate change adaption.

It is important to note that the estimates for donors presented in this study could be skewed due to the amount of information each donor provided in project descriptions. As stated earlier, this study utilizes project information provided through the CRS, with project descriptions generally falling between 45 and 250 characters. The overall average across all donors was 77.8 characters for the project long descriptions. Bilateral donors tended to have shorter descriptions than multilateral organizations. For example, of all the multilateral donors, the World Bank had the clearest and most complete project descriptions.[22] Longer project descriptions are more likely to mention adaptive aspects of projects. Therefore, donors with shorter project descriptions likely had less of their projects captured by our coding methodology. If full project descriptions for all donors were available, the number of projects coded as adaptive would likely be larger.

*Table 3. Adaptation Aid by Donor*

| Donor | Number of Adaptation Projects (2005-2008) | % of Total Projects for Adaptation | Adaptation Aid Commitment (2005-2008) | % of Total Aid from Each Donor for Adaptation |
|---|---|---|---|---|
| **Top 20 Donors of Adaptation aid by Number of Projects** | | | | |
| UNDP | 109 | 14.29 | 10,933,398 | 1.29 |
| Canada | 86 | 11.27 | 36,934,145 | 1.09 |
| Spain | 79 | 10.35 | 30,727,765 | 0.92 |
| Germany | 66 | 8.65 | 19,470,559 | 0.17 |
| United States | 65 | 8.52 | 20,903,792 | 0.08 |
| Norway | 53 | 6.95 | 24,809,133 | 0.74 |
| United Kingdom | 46 | 6.03 | 11,880,012 | 0.09 |
| GEF | 32 | 4.19 | 105,144,726 | 21.47 |
| Italy | 28 | 3.67 | 2,023,265 | 0.07 |
| Portugal | 27 | 3.54 | 1,500,147 | 0.15 |
| Belgium | 26 | 3.41 | 7,484,426 | 0.25 |
| Finland | 18 | 2.36 | 19,369,597 | 1.83 |
| Greece | 17 | 2.23 | 3,714,760 | 4.35 |
| Denmark | 15 | 1.97 | 7,942,407 | 0.31 |
| EC | 12 | 1.57 | 60,685,727 | 0.24 |
| Monaco | 10 | 1.31 | 440,143 | 6.61 |
| IDA | 9 | 1.18 | 412,314,584 | 2.55 |
| Netherlands | 7 | 0.92 | 789,212 | 0.01 |
| Austria | 7 | 0.92 | 644,517 | 0.06 |
| France | 7 | 0.92 | 270,682 | 0.00 |

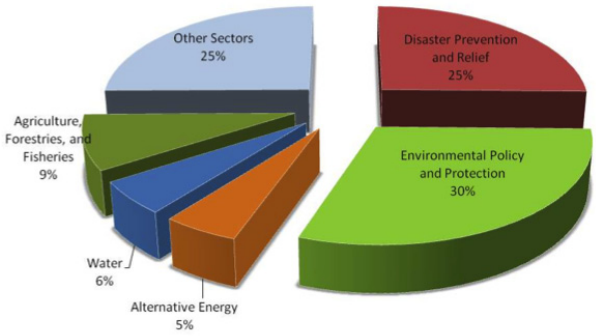
**Adaptation Aid by Sector**

Due to the wide array of activities that could be adaptive, creating a specific definition for adaptation aid is difficult, if not impossible. Increased access to water, improved agricultural techniques, and protection of natural ecosystems are all examples of projects that have the potential to increase resilience to climate change but are not necessarily adaption aid by the criteria presented in this study. This is because these are not projects explicitly intended to address climate related problems.[23]

The multiple ways a country can adapt to climate change are reflected in the numerous types of projects that donors fund. In this study, 763 different adaptation projects were classified under 75 different CRS purpose codes. CRS purpose codes are used by donors to indicate the primary activity of the aid project, such as communication, governance and civil society, agriculture, and emergency response. These various purpose codes were used to create general groupings to give a sense of the areas where donors direct adaption aid (see Figure 5).

Thirty percent of all adaption projects show up under environmental policy and protection, but this only constitutes 14 percent of the money for adaptation. Another 25 percent of projects are directed at disaster prevention and relief, constituting 17 percent of all adaptation funds.[24] Water, alternative energy, and agriculture/forestry/fisheries were the other notable groups. The remaining 24 percent of all projects were in some other sector or not labeled by the donor as going to a specific sector. Examples of sectors under the "other" grouping are business support services, technological development, and education policy.

*Figure 5. Number of Projects by Sector*




Interestingly, there is very little aid directed to food security. Only five projects were directed at adaptation that donors classified in the Food aid/Food security CRS reporting category, which was one of the codes under the grouping of disaster prevention and relief. There were many more Food aid/Food security projects that were not classified as adaptation aid. To classify a food security project as adaptation aid, there must be some mention of climatic concerns. For example, a project for increasing food production during periods of drought would be considered adaptive, whereas a project that focused solely on increasing food security, with no mention of climatic concerns, would not be coded as adaptation aid.

The dearth of food security projects as adaptation projects is remarkable considering that food security was the primary climate change related concern of development agencies according to interviews and field observations. This could just be a semantic issue, where donors classify food security projects as agriculture or some other sector. Even so, all projects explicitly geared toward increasing food production are less than 15 percent of all adaptation projects. These findings suggest that food security projects are not being undertaken for the explicit purpose of boosting people's resilience to increasingly unpredictable climates, but rather to respond to more immediate concerns.

## CHALLENGES AND RECOMMENDATIONS

Analyzing the amount of adaptation aid going to Africa has many challenges, including a lack of consensus among the development community about what adaptation means, and complex channels of delivery that make tracking the flow of aid money difficult.

Given these obstacles, what can be said about the nature of climate change adaptation aid to Africa? What do the findings of this study mean, and what conclusions can be drawn? This section will explore the challenges surrounding tracking adaptation and will give recommendations for how professionals in the aid community can work to make the process more transparent. Much remains to be done in terms of improving the transparency and substantive content of adaptation aid.

### Defining Climate Change Adaptation

The lack of clarity within the development community on what counts as adaptation makes it difficult to accurately code and track projects and funding amounts, thereby obscuring broader efforts to establish baselines for new and additional finance.[25] Although there are currently initiatives under way to track adaptation activities, they are not comprehensive. For example, the World Bank is a leader among donors in that it breaks down the percentage of its projects that deal with adaptation. However, these numbers are approximations that program officers make during the project proposal stage and are not updated throughout the life of the project. The method for estimating these percentages has not been made public. The OECD DAC, as of January 2010, has been using a new policy marker to track adaptation aid. Yet tracking is restricted to official development assistance and merely marks adaptation as a "principal," "significant," or non-objective of aid. "Principal" indicates the project would not have been undertaken without the purpose of adaptation. Unfortunately, the marker does not break down the nature of adaptation aid into further detail.

#### What Counts as Adaptation?

Examples of projects difficult to define when coding included:

- Rural electrification: A project which promotes rural electrification through coal power is good for economic development since it allows shops to refrigerate their goods or employees to work past nightfall. However, coal is not a renewable energy source. This study chose not to categorize it as long-term adaptation in a world that is increasingly favoring renewable energy sources to reduce emissions.
- Fisheries: Promoting the fishing industry helps boost local employment and provide short-term economic livelihood to a village. However, fishing may not be a sustainable industry in the long-run as climatic patterns change, causing fish to emigrate or die off.

The greatest challenge while coding was navigating various definitions of adaptation. The conceptual differences between broad and narrow definitions of climate change are reflected in some of the coding schemes created to classify adaptation projects. For example, the WRI coding scheme has a category for serendipitous adaptation. This category is intended to capture projects that are not undertaken to address climate change, but nevertheless make a country more resilient. Likewise, the DFID Triangle coding scheme has a classification for good development practice, which captures the vast majority of aid projects. This study only focuses on narrowly defined adaptation aid, which seeks to mitigate the effects of climate change or extreme weather events that are likely to increase as a result of climate change.

Some projects, like capacity building for national and local governments, may not appear to be adaptation-related, but they really are. Capacity building involves strengthening the institutions that receive, disburse, and implement adaptation aid so that they can effectively manage aid flows. This can involve budget support or training. For example, capacity building projects can include promoting coordination between

government ministries, training financial officers to practice effective methods of revenue control, or funding national assessments of vulnerability and exposure to climate change. These tasks may seem more administrative than climate-related, but they are vital for adaptation.

Another limitation of this study is the potential overestimation (in project numbers and budget estimates) of adaptation as a result of coding entire projects as adaptation, when only one or more components are actually relevant to climate change. For example, a road project that takes projected flooding into account would be coded as adaptation, although it is primarily an infrastructure project with other development goals. One way to redress this overestimation is to use budgetary figures within project documents when available. However, it is also possible to underestimate aid because occasionally donor intentions regarding adaptation are hidden in the longer project documents, but are not available in the short description. The underestimation of aid was apparent when projects were coded based on short descriptions instead of full project documentation from the World Bank.[26]

While the aim of this study is to shed light on the amount of adaptation aid being directed to Africa, there are several significant limitations to these coding-based findings. The findings of this study are only as complete and accurate as the project descriptions that were available.

**Standardizing Geocoding Practices**

If the international aid community wants to capture the benefits of mapping aid flows at a subnational level in a clear and transparent way, donors need to standardize and streamline the geocoding process. Third-party geocoding projects, such as this study and AidData's mapping initiatives with the World Bank and the AfDB, require large time investments and strong institutional cooperation to gain access to donor documents.

Strong institutional relationships and direct access to donor documents is critical because of the inconsistencies in the quality of descriptions provided by donors in the OECD's CRS. Some project descriptions are little more than a title, and even the longer descriptions lack the detail required for meaningful geocoding. Some donors, such as the World Bank and the AfDB, provide access to their documents online; however, without an institutional relationship between coders and donors, it is impossible to know if all documents are available online and available via open source or internal channels.

Even when donor-researcher relationships exist that facilitate better access to project-level information, there are still challenges for geocoding. Donors are not always consistent on where in their reports they place geographical references or how detailed the location information is. This study found that some project types, like hospitals and schools, contained spatial references at the municipality level but not the exact village or city where the project was being implemented. In these cases the projects were coded at a regional level, instead of the exact location. Coding projects at a regional level is still relevant in seeing where aid goes on a subnational level, however, the data is limited in that it can only show which local government received the funding, but not which local population received the benefit.

The current practice of third-party, independent researchers geocoding project documents provided by donors is not a sustainable method for geocoding. The most efficient solution is for donors to adopt universal geocoding practices that they then implement internally. By geocoding internally, donors would be able to use first hand knowledge of the project to provide a more accurate and timely picture of where aid is going.

A further limitation of geocoding is that the projects are coded based on donor reports that are written prior to project completion. Coders use estimates, or appraisal documents to find the locations, but they have no way of knowing if the donor or local agency implemented the project in the proposed location. One way to measure how

effective projects are, as well as match project proposals to completed projects, is by having individuals in the community report on the project through crowdsourcing.[27]

Crowdsourcing is an example of a feedback loop in which the project information is provided by a donor agency. Crowdsourcing allows individuals to expand and improve upon donor information using the knowledge of a wider array of individuals — in-country staff, implementing agencies, or local citizens.

## Typical Coding Information Provided by Donors

Figure 8 illustrates examples of the types of projects currently available (as of June 2011). It is conceivable that both of these projects are targeted to address climate change. In fact, under several of the coding schemes they would be interpreted under the narrow definition of adaptation, meaning it directly reduced people's vulnerability to climate-related threats.

Examine the differences between the first and second example below, which are screenshots from this research team's coding interface (PLAID, or Project-Level Aid, is the precursor of AidData). Note several key differences between the two. The first example is missing a title, long description, and donor name. The second example provides a full title and a long description, although the long description is limited to around 250 characters. It provides much more information than the typical project entry. Neither example explains how much of the project the donors intended to be adaptation, nor contains geographic information. Despite the fact that these descriptions are rather lacking, this study used this information for coding because it covered a longer time series than coding based on full project documents. Collecting full project documents has a high transaction cost because it would involve contacting each donor individually, and then reading through hundreds of pages of documents searching for a mention of adaptation.

**[618697/27219]**

| | |
|---|---|
| PLAID Id | 27219 |
| Title | |
| Short Description | DROUGHT RELIEF |
| Long Description | |
| Recipient | Ethiopia |
| Year | 1985 |

**[43276/1015] Groundwater and Drought Management in SADC Project**

| | |
|---|---|
| PLAID Id | |
| Title | Groundwater and Drought Management in SADC Project |
| Short Description | |
| Long Description | The objective of the Southern African Development Community (SADC): Groundwater and Drought Management Project is the development of a SADC regional strategic approach to support and enhance the capacity of its member states in the definition of drought management policies, specifically in relation to the role, availability, and supply of potential groundwater resources. The project consists of four components. The first, development and testing of a groundwater drought |
| Purpose Name | |

### Channels of Aid Delivery and Mapping Aid Flows

This analysis has focused on the commitments made by various donors for climate adaptation projects. However, commitment amounts were often times greater than the actual disbursements or funds given to projects. So why focus on commitments rather than disbursements? The reason is due to the difficulty in determining the level of disbursements. Tracking disbursements is a complicated process because of the various channels of aid delivery and the numerous organizations involved in allocating funds.[28] Until recently, donors did not consistently report

disbursement data. Disbursements were also distributed across several years, therefore the amounts appeared smaller relative to the total committed sum. In analyzing the problems and issues related to tracking aid, this section addresses the multiple channels through which aid can flow, the difficulty in reporting this aid, and the lack of information regarding NGO aid activity.

There are multiple avenues through which money flows from developed countries to people on the ground. Funds could go from a developed country directly to a government ministry, such as the Ministry of Finance. Aid could also travel through a development agency's country office and then to a ministry. In other cases, aid bypassed the government all together and a country office gave a development contract to an NGO, such as CARE, Save the Children, or a local organization. In some instances, these NGOs did not actually implement projects, but rather the NGO offered contracts to smaller NGOs to actually implement the project. For example, the CCAPS team spoke with a local Kenyan NGO that received funding from large donors such as USAID, the EU, and Germany. Once the NGO received these funds, it issued a call for project proposals from local groups. These local groups could be national NGOs or community groups such as water user associations. In total, the NGO worked with 22 of these types of local groups in order to implement development projects.

The difficulty in tracking aid, particularly for climate adaption projects, involved following aid flows from the donor to this local level of actual implementation. For example, when organizations like the local NGO in Kenya received funds from USAID and other donors, the NGO was not required to provide finite details about the projects being implemented by the local groups. USAID might have given funds to the NGO for a "water and sanitation project" but the local groups might have used these funds in a specific manner that was or was not considered adaptation. Although the projects were required to meet specific benchmarks and outcomes stated by USAID, the NGO was only required to report back to the donor on an aggregate level of all projects being funded by that particular donor. Therefore, project descriptions could have lacked specific details that would have given more insight to whether or not a project fell under the category of adaptation. These project descriptions were also less likely to also have geographical information necessary for geocoding efforts.

National governments have also been affected by this inability to accurately track aid flows. In Kenya, although official development assistance increased from KSH 103 billion last year to KSH 120 billion for 2010-2011, much of development aid remained "off-budget." Development activities were considered off-budget when they were funded through external aid and did not appear on national accounts.[29] The difficulty with this type of aid is that there is no record of the total funding amounts readily available to the government. Therefore, governments and other aid agencies do not know how much money is actually being spent, complicating national budget planning and processes. Government representatives state that there has been a tendency for development partners to work off-budget due to high foreign exchange rates and past issues with corruption.

Because of the unwillingness of some donors to work with government ministries to allocate development funds, many countries do not know exactly how much foreign aid is being distributed in their countries. Although most large donor agencies such as USAID and GTZ reported these amounts to headquarters, many NGOs have not been required to provide detailed, up-to-date information regarding project implementation. This lack of reporting requirements has made it difficult to determine the extent of the role played by NGOs in climate change and development activities in general.

**Policy Steps for Tracking Climate Aid**

This study identifies several policy approaches that could increase the accountability, transparency, and effectiveness of adaptation aid. One challenge to tracking aid is that each organization has different reporting standards and methods when it comes to writing project documents. The World Bank, for example, provides an estimate of the overall percentage of the budget spent to address climate change in project documents. However,

staff estimate the percentage at the time of designing the project and it is not usually updated even after the project is implemented. Such inconsistencies make it challenging to correctly determine the climate change components of a project due to the nature of aid reporting. It is voluntary and consequently has weak enforcement mechanisms.

Limited resources are major obstacles in effectively tracking aid. Aid organizations have a limited budget and a limited number of staff. As a result, aid organizations are hard pressed to dedicate either a portion of their budget or some of their staff to aid tracking.

Based on the challenges encountered during the coding phase of this study and the interviews conducted with climate change and aid experts, this study identified several steps that donors could take to significantly improve and streamline the process of tracking climate change aid:

- Work with institutions such as IATI to implement consistent donor reporting practices, through best practices or standards, to provide sufficient project level information for accurate coding and tracking purposes. Aid organizations should engage with IATI to create a standard on aid reporting but also cooperate to ensure that thereafter they implement these standards in their various organizations. This will ensure that there is a central portal where interested parties can access current, accurate, and useful information on aid flows to determine how much aid donors are allocating to climate change adaptation.
- Coordinate with AidData by providing complete and current project information for the purpose of building a central searchable database with information about aid projects. In order to determine whether development projects have climate change aid components, there needs to be a central searchable database with complete and current information on the development projects. AidData is one such database and the main challenge that it faces is lack of complete and current documentation from aid donors and recipients. This challenge can be resolved when aid donors and recipients cooperate to provide information on development projects.
- Improve coordination between the headquarters, country offices, and contracted organizations with the aim of reducing the complexity of reporting on aid projects and aid tracking.
- Prioritize aid reporting and dedicate more staff and resources to tracking aid. For example, aid organizations should make aid reporting a central part of their implementing activity and set apart a portion of their budget for this purpose. This will ensure that aid reporting is not left to chance but is a part of project implementation.
- Work closely with country offices to understand the gaps in their capacity to report on aid projects and fulfill these gaps through training and resource provision. One of the main challenges in tracking aid is a seeming disconnect between the headquarters of aid organizations and the country offices regarding project implementation. As a result, the headquarters of the aid organizations may have unrealistic expectations of country offices, while country offices may not have the capacity to meet the requirements imposed upon them by headquarters.
- Expand the OECD adaptation marker, or similar categorization scheme, to both make the categorization scheme more institutionalized and more applicable to specific projects.
- Increase cooperation between the OECD and UNFCCC for the purpose of developing improved and effective climate change adaptation markers.

The results of this study provide a general sense of the landscape of climate change adaptation aid to Africa—a best estimate based on information that is publically available. This study identified trends that are consistent with heightened adaptation activities in international development aid and the UNFCCC processes. It is not possible to definitively and precisely answer research questions without first implementing better mechanisms to track climate change aid and reaching consensus on a definition of climate change adaptation. Only then will it be possible to reliably identify what types of projects and how much money counts toward adapting to climate change.

# CHAPTER 2

## International Development Aid in Malawi

*By Sarah Fiorenza, Hoor Jangda, Dylan Malcomb, and Gigi Mao*

This chapter focuses on Malawi's progress and challenges in aid transparency, capacity building, and coordination of international finance with regard to climate change adaptation efforts and offers a set of policy prescriptions to enhance the effectiveness of climate aid.

Climate change is a significant concern for Malawi, primarily because of its effects on rainfall patterns that could potentially lead to crop failure. As a landlocked country located in Southeastern Africa, Malawi's economy is heavily dependent upon rain-fed agriculture, with about 85 percent of its population practicing subsistence farming of a single crop – maize – in rural areas. Because maize production is highly sensitive to soil moisture, climate change-induced shifts in rainfall patterns directly affect food production both at the household and national levels. Periodic floods and droughts have led to food crises and famines in the past. In 2005, following a poor harvest, five million Malawians – over one-third of the country's total population – depended on emergency food aid for survival. In addition to its heavy reliance on a single non-climate resistant crop, a host of other issues compound Malawi's vulnerability to climate change, including widespread poverty, high population density, and high population growth.

As one of the Least Developed Countries (LDCs) in the world, Malawi lacks sufficient domestic resources and institutional capacity to address climate change-related challenges effectively. International aid and technical expertise play a significant role in the climate change arena in Malawi and are essential for the success of adaptation efforts. Yet, lack of institutional capacity and insufficient coordination between donors and various ministries under the Government of Malawi (GoM) have thus far impeded international aid from clearly defining the climate agenda and effectively mobilizing resources to address climate-related challenges.

Fieldwork in Malawi represents a great opportunity to understand how to best track official development assistance and identify how that aid can be mobilized to address climate change concerns. Given the potential for climate-related disasters and limited institutional capacity and domestic resources to handle these crises, the GoM has signaled its political commitment to address the country's vulnerability to climate change by working with donors and mobilizing official development assistance on climate-related issues. The GoM demonstrated its willingness to participate in the global dialogue on climate change in 2006 when Malawi became one of the first LDC countries to complete its National Adaptation Programme of Action (NAPA).[30] In 2008, Malawi began to use the Aid Management Platform, which requires donors to report detailed aid activity information to the government on a monthly basis, and thus allows for better tracking and reporting on international aid flows in the country.[31]

Using material from interviews and site visits, as well as existing literature and project documents on climate change in Malawi, this chapter draws the critical link between vulnerability, the aid landscape, and efforts to address climate change in Malawi.[32] This case study builds on the prior chapter on adaptation coding by analyzing the context, definitions, rationale, and measures of adaptation projects in Malawi.

### COMPLEX VULNERABILITY

Malawi has endured numerous climatic hazards in the past two decades, including dry spells, seasonal droughts, intense rainfall, and flooding. These incidents have increased in frequency, intensity, and magnitude, becoming shocks rather than mere episodes. Malawi stated in its first National Adaptation Program of Action (NAPA) report to the UNFCCC that this trend has directly and adversely affected livelihoods in rural communities and food and water security.[33] However, climatic shocks are not the only persistent concern in Malawi.

The CCAPS report published in 2010 identified four main processes of vulnerability that include physical exposure to climate-related hazards, household and community vulnerability, governance and political violence, and population density.[34] Malawi is an example where these four factors form a complex vulnerability that could be exacerbated by climate change. Malawi routinely places in the lowest quintile on indicators that evaluate human development, health indicators, deforestation, population growth, or poverty.[35] Malawi's domestic stability and development trajectory are threatened by environmental uncertainty, land degradation, poverty, a health crisis, and rapid population growth. Therefore, climate adaptation in Malawi cannot only focus on climate or natural disasters. Instead, it must involve a multifaceted approach that addresses existing development issues in addition to hazards posed by climate shocks.

**Environmental Uncertainty**

Interviews with farmers in Malawi indicated that a decade ago the rains were very predictable. A three-week rain in September would signal the planting of maize. Today, these once-predictable rains have disappeared and farmers are no longer sure about the best planting time. This uncertainty has become the new reality for the rural population in Malawi, where over 85 percent of farmers depend on rain-fed maize for their livelihood.

A report from the UNDP indicates that the mean annual temperature in Malawi increased by 0.9°C between 1960 and 2006.[36] Estimates for the year 2100 show that Malawi will likely face a temperature increase of at least 2.5°C but possibly as high as 4.5°C. However, rainfall models are far less definitive. Malawi's inter-annual variability is strongly influenced by Indian Ocean sea surface temperatures and the El Niño Southern Oscillation (ENSO), which can lead to differences between various models that predict precipitation. Rainfall is now unpredictable and there is not a statistically significant pattern of more or less rainfall in the future. Mean rainfall will remain about the same but what is predicted is heavier rain activity in the wet season, balanced by decreases in the dry season.[37] This could lead to floods and droughts that stress crops like maize, which is vulnerable to either extreme.

For Malawi, predictions of increasing temperatures and greater precipitation anomalies could translate into even greater agricultural uncertainty. Food and water security are already manifest problems and climate change could exacerbate these issues.

*Figure 6. Most Vulnerable Regions in Malawi*


**Land Degradation**

When crops fail and farmers look toward other means of income, Malawi's natural resources become the most accessible targets. The main driver for deforestation is the practice of turning charcoal into cooking fuel. The extraction of charcoal from virtually every unprotected source across the nation has led to a 13 percent decline in forest cover in the past 20 years and one of the highest annual deforestation rates, 2.8 percent, in Southern Africa.[38]

Measures put in place to protect forest preserves have further destabilized the communities in close proximity to these once open resources. Studies indicate that when there are income shocks in Malawi (such as through failed crops), deforestation in the tropical forest is a natural coping mechanism.[39]

Projects target communities near forest preserves to protect the natural resource while helping communities adapt to a changing climate. The

Mulanje Mountain Conservation Trust is an example of this type of initiative, where the World Bank, Norway, Japan, and Global Environment Facility are all working to improve the sustainability of biological resource use and to enhance the value of the Mulanje Mountain ecosystem to local communities.[40]

Mulanje Mountain is one of many regions described as a hotspot for vulnerability to climate change. The regions depicted in Figure 6 include the Salima, Karonga, and Mangochi districts along Lake Malawi that are prone to flooding and drought. The Zomba district with the Upper Shire river valley running through it and the Chikwawa and Nsanje with the lower Shire River are areas that experience flooding. Heavy deforestation in these areas has led to soil run-off, siltation of the rivers, and flooding that destroys crops. This is perhaps why Malawians view deforestation within the country as being a primary cause for climate change.[41] Mulanje is the district highlighted in green, and Dedza, highlighted in pink, is susceptible to both natural and manmade forest fires. Based on these hazards (deforestation, floods, droughts, and fires), these regions are now suffering the most from climate-related issues such as food and water insecurity.[42]

**Poverty**

Nearly 30 percent of the country's population lives in extreme poverty and 90 percent of Malawians live on less than two dollars per day.[43] The most vulnerable households are female-headed households that typically have the least amount of land or other assets. Lack of arable land or income to buy seeds or fertilizers and the need to look after orphans are cross sector issues that prevent vulnerable women from taking full advantage of available resources.

Poverty is a serious challenge toward building adaptive capacity and resilience. When households struggle on a daily basis to meet basic needs such as nutrition, water, and health care, the slightest disturbance can become devastating. To this end, climate shocks and poverty work in insidious ways toward creating even greater instability. Additionally, when considering other stressors in addition to poverty, the crisis can become even more pronounced.

**A Health Crisis**

Twelve percent of the population is currently living with HIV/AIDS. An estimated 20,000 children are born each year with HIV, and some 800,000 children are orphaned due to the disease.[44]

Uncertainty in rainfalls can lead directly to poor nutrition and lack of income. In circumstances of extreme poverty, men often leave the house to seek work and only return when food production resumes. For women left behind, adaptation means securing nutrition, providing for children, and often looking after orphans. In the worst of circumstances, women resort to prostitution which can lead to the spread of HIV/AIDS.

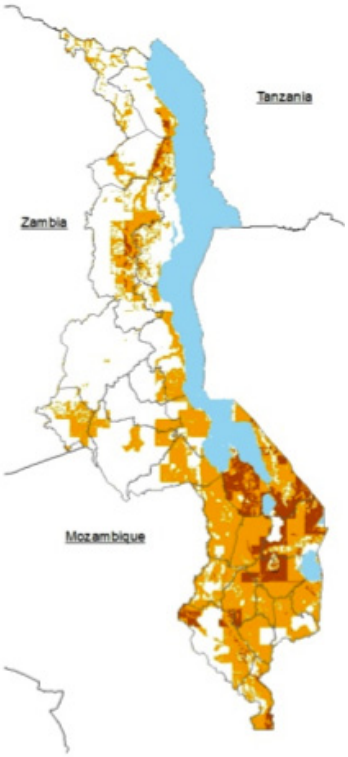
Chronic malnutrition in children is another impending disaster in Malawi. Cultural perceptions that maize is food and that children are resilient enough to survive on this mono-crop diet has led to serious implications for the next generation. During interviews, donor organizations expressed concern about an alarming trend of stunted mental and physical development in over half the children in Malawi.

Malawi's NAPA reported to the UNFCCC that infant malnutrition and chronic ailments associated with malaria, cholera, and diarrhea are a result of increasing droughts and floods. Malaria is expected to increase based on the predicted warming models described earlier. When climate shocks occur, a population already destabilized by health issues can present additional challenges to creating adaptive capacity.

### Complex Vulnerability and Climate Change

Malawi's population is expected to double by 2040. This rapid population growth poses additional stress on the country's limited resources and capacity. With the amount of arable land per person quickly shrinking, Malawi must develop an adaptation strategy that addresses issues related to food security, poverty, and health to ensure the sustainability of its resources and development efforts.

*Figure 7. Complex Vulnerability*




These factors combine to create a complex vulnerability in Malawi where climate change, poverty, and rapid population growth drive instability and insecurity (see Figure 7). Numerous studies suggest that the poorest rural populations in Africa are the most susceptible to climate shocks.[45] Other studies link reliance on agriculture to poverty,[46] poverty to natural resource exploitation,[47] and poverty to the incidence of HIV and AIDS.[48] All of these cross-cutting links in vulnerability suggest that an effective response to climate change must also address the numerous vulnerabilities that climate change exacerbates.

People living in villages in Malawi are a repository of information about how to improve the human condition inexpensively and with minimal environmental impact.[49] The answer to addressing complex vulnerability lies with them and donors have become more engaged with community level projects and household level research applying their projects. Unfortunately, in Malawi the conversation of complex vulnerability as it relates to adaptive strategy is relatively new and the GoM has been slow to build a national plan for ameliorating the effects of climate change.

## NATIONAL STRATEGIES FOR CLIMATE CHANGE ADAPTATION

### National Adaptation Program of Action

While climate change is likely to have detrimental effects on Malawi's development, international aid donors and the government have been slow to coordinate an effective response. Many donors noted that it was only in the last two to three years that climate change really emerged as a concern for both development agencies and key government ministries. The country is already in the midst of numerous development crises. The majority of the population lives on less than two dollars a day,[50] the average life expectancy is only 54 years, and 12 percent of the population is living with HIV/AIDS.[51] Food security remains a key development priority as the majority of the population relies on subsistence agriculture. Shifting resources from immediate poverty concerns to longer-term issues such as climate change adaptation is a slow and difficult process. Malaw's NAPA was intended to help facilitate this process by providing the country with a clear strategy for prioritizing its adaptation response. However, several problems have arisen during the implementation of Malaw's NAPA, hindering efforts at a coordinated national response to climate change.

NAPAs are meant to provide LDCs like Malawi with a streamlined process for identifying their most urgent needs for adapting to climate change. Countries that submit NAPAs are eligible for funding through the Least Developed Countries Funds (LDCF). The LDCF was designed in 2005 through the UNFCCC to assist the least developed countries, as they are particularly vulnerable to the effects of climate change. The LDCF assisted in Malawi's NAPA preparation process by providing financial assistance through the UNDP. The Environmental Affairs Department (EAD) of Malawi's Ministry of Mines, Natural Resources and the Environment (MoMNr&E)

led the NAPA preparation process. To incorporate relevant stakeholders, the EAD created a NAPA coordination team and selected members from civil society, the private sector, and other government ministries to prepare Malawi's NAPA.[52]

Malawi's NAPA identified the following five priority areas for reducing Malawi's vulnerability to climate change:

- Develop sustainable rural livelihoods through enhanced food security, improved access to water, a reduction in poverty, and a reduction in environmental degradation.
- Restore forests in the Upper, Middle, and Lower Shire Valleys catchments to reduce siltation and the associated water flow problems.
- Improve agricultural production under erratic rains and changing climatic conditions.
- Improve Malawi's preparedness to cope with droughts and floods by establishing forecasting and warning systems and implementing mitigation measures.
- Improve climate monitoring to enhance Malawi's early warning capability and decision-making and sustainable utilization of Lake Malawi and lakeshore areas resources.[53]

When Malawi's NAPA was submitted in 2006, the coordination team estimated the implementation cost of these five priority projects as $22 million.[54] Five years later, only about $3 million has been allocated to priority adaptation projects identified in the NAPA. This $3 million has been provided to help fund a $27 million African Development Bank project dedicated to promoting rural sustainable livelihoods. One reason for the delay in implementation is that the LDCF was slow to make funding available for Malawi's NAPA. Anticipating adaptation funds from the LDCF, the government did not allocate its own resources to adaptation or signal to other donors that adaptation should be prioritized for funding.[55] Many other developing countries have experienced similar delays in receiving adaptation funds through the LDCF. These funds are controlled by a GEF implementing agency.

In Malawi's case, the GEF implementing agency was the UNDP for the NAPA preparation phase and then switched to the AfDB for the implementation phase. A case study of Malawi's NAPA process carried about by the Danish aid agency found evidence of competition between potential GEF implementing agencies throughout the NAPA process. The case study also revealed that many stakeholders involved in the NAPA process felt that the LDCF procedures for NAPA project implementation "were slow and overly complex."[56] This helps to explain the delay in LDCF funding for Malawi's NAPA. The fact that the government was slow to endorse climate change adaptation as a national priority further delayed NAPA implementation. Until 2008 when President Mutharika officially launched the NAPA, few government ministries were aware of or even interested in national climate change adaptation efforts even though the NAPA was submitted in 2006.[57]

Capacity issues within the government also contributed to the ineffectiveness of Malawi's NAPA. An initial capacity assessment of the MoMNr&E, the lead executing agency of the NAPA, undertaken by Norway, DfID, and the Food and Agriculture Organization (FAO) revealed that the Ministry lacked the necessary capacity to lead a national response to climate change. According to donors this research team interviewed, as of March 2011, the Ministry had submitted one project proposal. The Ministry faces severe financial constraints and does not have enough staff with the necessary skills and expertise to substantively engage in this policy arena. Structurally, it does not have strong links with other government ministries and it does not hold the mandate for national planning, which makes coordination efforts difficult. Due to these severe limitations, most donors see Malawi's NAPA as ineffective and outdated. Without the funding and government capacity to implement it, Malawi's NAPA cannot effectively coordinate the country's climate change response. Donors acknowledge that the NAPA served as a good starting point by putting climate change adaptation onto the national agenda.

### National Program for Managing Climate Change

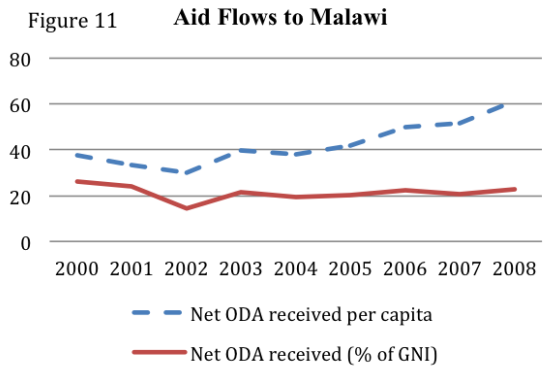
In 2008, DfID, UNDP, Norway, the World Bank, FAO, and Spain began working with the Malawian government to create a National Program for Managing Climate Change. Donors involved in this effort explained that it was not meant to replace the NAPA but rather to refocus and update it. This program aims to produce a climate atlas,[58] an investment strategy for climate funds, and a clearly articulated government response to climate change that is well integrated with the country's development and growth strategy. The program also seeks to increase government coordination on climate change by providing ministries with well-defined roles within the program. Unlike Malawi's NAPA, funding for the program goes through the Ministry of Development Planning and Cooperation (MoDPC).[59] The MoDPC has better links to donors and other government ministries than the MoMNr&E. The MoDPC also holds the mandate for national planning and thus is in a better position to lead national efforts to mainstream climate change adaptation into development. Since the MoDPC lacks adequate climate change expertise, the MoMNr&E has been brought in as a lead coordination partner.

Many donors and NGOs interviewed by the study team seemed optimistic about the potential effectiveness of the program. The National Program for Managing Climate Change addresses many of the shortcomings of the NAPA by establishing clearer mechanisms for coordination across government ministries and donor agencies. If the program is successful at enhancing coordination and developing government capacity, Malawi will be in a better position to manage the international aid flows for climate change adaptation that are expected to substantially increase in the next few years.

## DEVELOPMENT ASSISTANCE TO MALAWI

Malawi is likely vulnerable to climate change and dependent on international aid to combat its vulnerabilities. Therefore, the effective implementation of adaptation efforts in Malawi is contingent upon Malawi's existing aid structure and the country's capacity to sustain these adaptation efforts. Currently the government ministries lack the capacity to successfully address issues of development and climate change without the assistance of external development, financial, and technical assistance. Commitment figures gathered from AidData show that international aid rose from approximately $481 million to $688 million from 1999 to 2008.[60]

*Figure 8. Aid Flows to Malawi*




While the net development assistance received as a percentage of gross national income remained fairly constant between the years of 2000 and 2008, the net ODA received per capita reveals a different picture.[61] Accounting for the rising population, per capita net ODA nearly doubled in the eight years, rising from $37.7 to $61.5 (see Figure 8).

Currently the European Union disburses the largest amount of ODA to Malawi, with disbursements in the fiscal year 2009-2010 amounting to approximately $155 million.[62] Other large donors include the UK Department for International Development (DfID), the World Bank, and USAID. USAID is currently the largest donor in terms of number of projects, with 55 projects over 10 sectors in FY 2009-2010.[63]

Approximately $110 million, or approximately 71 percent, of total aid disbursed from the EU is in the form of budget support. Budget support as a form of international funding to Malawi is increasing in importance as donors attempt to build the GoM's capacity. Since 2007, the amount of budget support as a proportion of total

aid delivered rose from approximately 18 to 30 percent. Consequently, funding for projects and sector support has decreased as a percentage of the total aid. The MoF reports that the top two aid-funded sectors are economic governance and health, with 30 and 25 percent of total disbursements, respectively.

**Tracking Aid**

With approximately $792 million in recorded international aid disbursed to Malawi in FY 2009-2010, tracking aid is important both to donors and recipients of funds. Tracking climate change aid could help provide a more accurate analysis of the effectiveness of adaptation efforts and create a clearer picture of a baseline for new and additional funds. Tracking aid is essential for the GoM to determine its budget for the current fiscal year and to plan and forecast budgets for future years. Donors demand increased transparency in tracking aid in order to justify continuing funding countries such as Malawi to their domestic constituencies.

Findings from the 2010 pilot project by the International Aid Transparency Initiative (IATI) reveal an interesting picture of transparency in Malawi. The implementation of the Aid Management Platform (AMP) in 2008 is an indication of a significant step to increase aid transparency in Malawi. The AMP is currently used by the MoF as a "purely financial and budgetary tool"[64] creating increased certainty in determining future funding and therefore allowing for a better macroeconomic management of the economy.[65] The AMP, provided and maintained by Development Gateway, a Washington, D.C. based NGO, is used by the Debt and Aid Division in MoF to store financial information on aid activities. Additionally, the AMP requires limited information from the donors, making it an accessible tool to use by donors and the government.[66] AMP requires donors to report on active projects and current funding on a monthly basis allowing for a consistent tracking of international aid. As indicated by the report from IATI and interviews conducted by this research team in Lilongwe, the GoM has managed to achieve almost perfect cooperation with its donors on monthly reporting of aid activities.

There are still several constraints to tracking aid in Malawi. While there has been an increase in donor reporting since the implementation of the AMP, the Aid Atlas FY 2009-2010 of Malawi reveals gaps in reporting. The MoF Aid Atlas 2010 reveals that the UN agencies fell behind in reporting of aid activities by reporting late or not reporting at all for several months. The IATI report further reveals that some 'donors have been less responsive' in monthly reporting of aid activities than GoM would like them to be.

Inconsistent or incomplete reporting results in large quantities of international aid that the government cannot factor into their budget. Additionally off-budget ODA remains absent from the government's budget, similar to the results of imperfect reporting. This form of assistance is provided without the direct knowledge of the Malawi government and by its nature is not included in the government budget. Donor assistance that does not flow via the government increases the likelihood of donors and GoM undertaking the same initiatives. An example of the use of off-budget support occurred in 2008 when USAID provided assistance to the Ministry of Health. The ministry described the initiative as paying for "malaria drugs which were then deployed as part of a government-planned anti-malaria initiative."[67] In addition to an inefficient use of resources, duplicative efforts further complicate the tracking of aid and its effects.

Without a way to track aid flows, it is impossible to hold donor countries accountable for their aid commitments. Recognizing the dire effects that climate change is likely to have on countries like Malawi, the international community has pledged to mobilize a response. In 2010, developed countries promised to provide a total of $30 billion by 2012 and $100 billion a year by 2020 to help developing countries both mitigate and adapt to climate change.

Tracking adaptation aid is complicated by the fact that the international community has yet to establish a clear guideline for what actually constitutes adaptation. On one side of the spectrum, advocates for a broader definition of adaptation include any traditional development activity that reduces the overall vulnerability of a population. Proponents of a narrower definition include only those activities explicitly related to climate change like building sea walls. Another difficulty is that many adaptation projects are "mainstreamed." These are traditional development projects that incorporate adaptation strategies as one component of the overall project. Under the AMP there are 16 different sectors for reporting, including health, education, and governance. Interviews with donors reveal that climate change is most commonly categorized under the agriculture sector, given that there is not a specific sector defined as climate change under the GoM. There are several problems that arise as a result of this lack of transparency and definition. First, this creates problems of defining efforts and discerning actual aid amount that is specifically geared towards climate change adaptation. Not knowing how much funding is going towards climate change creates the additional problem of determining the effectiveness of climate finance in Malawi. There are several adaptation efforts currently underway in Malawi but the inability to keep track of them prevents the creation of a holistic picture of climate change adaptation efforts.

**Aid for Adaptation in Malawi**

In an effort to track international aid for climate change adaptation, in the Spring 2011 the CCAPS research team carried out a pilot study of aid flows from all public international aid donors to Africa using project descriptions available from the OECD's Creditor Reporting System. Using multiple classification schemes to address the lack of consensus on what constitutes adaptation, the team analyzed all development assistance given to African states between 2005 and 2008 from all official aid donors (those members of the Organization for Economic Co-operation and Development – Development Assistance Committee [OECD-DAC]) and non-DAC bilateral and multilateral donors found in AidData.[68]

The CCAPS research team found that from 2005 to 2008, less than one percent of development assistance going to Malawi was classified as narrowly defined adaptation aid. Even though Malawi was one of the top recipients of adaptation aid in Africa, adaptation aid constituted a negligible portion of the total development assistance Malawi received during the time period examined.

The majority of adaptation aid committed to Malawi was in the "Agriculture, Forestries, and Fisheries" category (see Figure 9), representing about eleven percent of total development assistance. The fact that most of the adaptation aid was given to this category corroborates what donors and NGOs on the ground said about adaptation efforts in Malawi in terms of the kind of adaptation projects being implemented. Malawi's response to climate change has so far been largely limited to the agricultural sector in the form of food security projects. Food security projects aim to ensure that individuals have sufficient access to food at all times. In Malawi, food security projects can involve a wide variety of strategies: distribution of fertilizer and seeds, crop diversification, income diversification, increased

*Figure 9. Total Adaptation Aid by Sector Committed to Malawi, 2005-2008*

**$23,312,579**

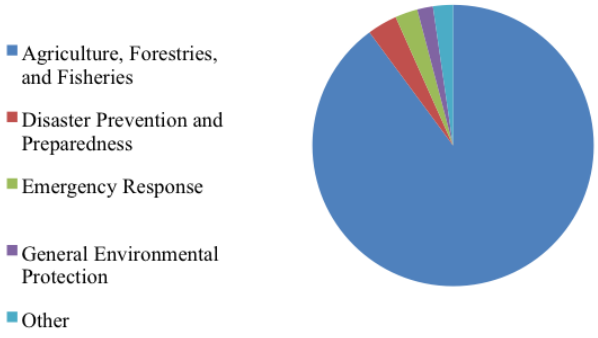
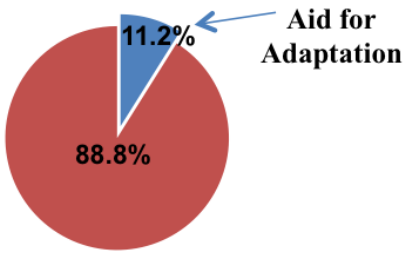



*Figure 10. Total Aid Committed to Malawi for Agriculture, Forestries, and Fisheries, 2005-2008*

**$234,451,182**



market access for rural farmers, and irrigation and watershed management systems, to name a few. Food security is a key concern for Malawi since so much of the country relies on subsistence agriculture. Without appropriate measures in place, one poor harvest can have a devastating effect on Malawian households. Understood in this context, Malawi has always been vulnerable to climate shocks such as floods and droughts. Yet it is only in the last few years that efforts to reduce this vulnerability have been discussed in the context of climate change adaptation. This will be explored in greater detail later in the report.

**Key Adaptation Projects**

Malawi's response to climate change is still at an early stage. Thus, there are only a few donors in Malawi that are implementing projects that explicitly target climate change adaptation as the main objective. These stand-alone adaptation projects are comparatively easy to track because they clearly address climate change adaptation and therefore the full project amounts can be counted as adaptation aid.[69] Such examples include:

- The African Development Bank (AfDB) partnered with the GoM to design the $27 million Climate Adaptation for Rural Livelihoods and Agriculture (CARLA) project. The LDCF, through Malawi's NAPA, funds $3 million of the project. The project aims to develop sustainable rural livelihoods and improve agricultural production.[70]
- Norway is currently implementing the $4.3 million Chia Lagoon Phase II project. This project aims to reduce vulnerability to climate change by improving food security, reducing deforestation, and providing farmers with diversified income streams. Norway considers this project its flagship climate change adaptation project in Malawi.
- UNDP is implementing a $3.9 million project that focuses on building the government's capacity to address climate change. This project is partially funded by the government of Japan through the Africa Adaptation Program (AAP). It will develop a climate change adaptation strategy and investment plan. It also aims to facilitate and improve national and district level planning on climate change issues.[71]
- DfID is using fast start finance to help farmers plant drought-resistant maize and to fund a drought insurance scheme. The organization also used fast start finance to upgrade weather stations so that farmers can have access to accurate weather information.[72]

**Mainstreaming Aid for Adaptation**

Most donors are not implementing stand-alone adaptation projects, making it difficult to gain a complete picture of adaptation aid going to Malawi. Instead, these donors are mainstreaming climate change adaptation into traditional development projects, particularly in the agriculture sector. These projects typically focus on food security and incorporate conservation agriculture techniques, crop diversification, and agroforesty practices. For example, the European Commission is currently implementing the Farm Income Diversification Program (FIDP). The aim of the project is to help farmers diversify their incomes but it also has a conservation agriculture element to it. Donors are also working with the government to integrate climate change adaptation into national strategies. The Agriculture Sector Wide Approach (ASWAp) is a coordinating mechanism for aid going to the agriculture sector. Donors have mainstreamed adaptation into the ASWAp by promoting conservation agriculture, agroforestry, and the diversification of crops towards those that are more drought resistant. Some donors also mentioned that Malawi's second national growth and development strategy will incorporate climate change much more so than the previous five year strategy.

Mainstreaming adaptation aid allows donors to use existing structures to address climate change while simultaneously meeting other development objectives. Many development practitioners consider mainstreaming adaptation aid as the best way for developing countries to respond to climate change. However, as of early 2011, there was no process for tracking adaptation aid that is integrated into traditional development projects.[73] Furthermore, many of the policy solutions that have been proposed for tracking adaptation aid would not account for aid that is mainstreamed. Stadelmann et al. discuss eight potential solutions for ensuring that adaptation aid

committed by developed countries is new and additional to existing ODA flows to developing countries. One of these solutions is not counting any ODA as going towards adaptation. Any international aid given for development purposes would not count as adaptation aid, creating a clear distinction between aid for development and aid for climate change adaptation. Another proposed solution is only counting aid that goes through new sources of funding.[74] While these solutions provide a baseline for measuring adaptation aid, they may not be optimal when implemented on the ground. As the case of Malawi has shown, mainstreaming adaptation aid can be an effective way to deal with climate change. By mainstreaming adaptation aid, donors are slowly meeting the objective of addressing climate change. But tracking this in a quantifiable and definitive manner will be difficult.

**Food Security and Adaptation**

Thus far donors have largely framed their responses to climate change in terms of food security. AfDB's CARLA project, Norway's Chia Lagoon Phase II project, and DfID's fast start finance project all focus on promoting food security as an adaptation strategy. Since the majority of Malawians are reliant on rain-fed subsistence agriculture, this may be an appropriate adaptation strategy. However, it is difficult to separate out how much aid is actually addressing distinct adaptation needs. Not all food security projects focus on the long-term goal of reducing Malawi's vulnerability to climate change. Food security projects that focus solely on increasing crop yields in the short term may even be counterproductive for adaptation efforts. For example, a project that aims solely to boost maize output rather than diversifying crops can hinder adaptation because maize is not a drought resistant crop. Thus, donors face somewhat competing development objectives when they address climate change adaptation in the frame of food security – to establish food security in the short-term and to help communities adapt to climate change in the longer-term.

There are ways to address both goals and some food security projects manage to do so. The difficulty is determining which food security projects meet adaptation goals and which should not count as adaptation aid. This lack of clarity makes it easier for donors to re-label efforts as climate change adaptation when they did not originally set out with that objective. Some donors who say they are implementing adaptation projects admitted that they are not doing things markedly different than they had before. Rather, they have recently come to see their efforts to improve food security through the new frame of climate change adaptation. This is not to imply that these projects do not make communities more resilient to the effects of floods, droughts, and other climatic shocks. However, this ambiguity about the objectives of food security projects impedes any attempt to track adaptation aid flows and to assess if sufficient resources are being mobilized and deployed to needed areas. Since donors in Malawi are mainly responding to climate change in the context of food security, adaptation aid to Malawi cannot be effectively tracked at this time.

Implementing food security projects that work towards the longer-term goal of climate change adaptation is difficult because it involves changing entrenched cultural practices, especially in food production and consumption. Maize has been the main crop in Malawi for centuries and occupies a significant role in the Malawian culture, but it is not a highly drought-resistant crop. Adaptation efforts must encourage farmers to diversify away from planting solely maize. However, farmers have so far been reluctant to switch over to more drought-resistant crops such as cassava. Several donors explained that Malawians view crops other than maize as only supplements, but not substitutes for maize. So far donors and NGOs have only been successful in convincing farmers to plant other crops in addition to maize. Efforts aimed at crop substitution on land dedicated to maize planting have largely failed. Promoting crop diversification when pressure on arable land is increasing will likely remain a challenging task for some time to come.

Another issue is that many traditional farming techniques are not appropriate for a climate with more frequent floods and droughts. For example, the traditional farming technique of planting on ridges produces significant rainfall runoff, which leads to inefficient water usage. One adaptation strategy is to teach farmers to plant in pits or

"on contour" which better utilizes rainfall. However, many farmers are skeptical of these nontraditional farming techniques. Often farmers will only change their traditional methods of planting after implementing agencies and organizations demonstrate evidence-based results repeatedly. Farmers are hesitant to adopt new technologies until they are assured that they will pay off in the short term. For most Malawian farmers, the key priority is feeding their family this season rather than adopting strategies for the longer term. This makes addressing climate change through food security projects particularly challenging.

## KEY OBSTACLES AND POLICY PRESCRIPTIONS

Malawi faces two key obstacles in responding to climate change and complex vulnerability in a timely and effective way: lack of institutional capacity and lack of effective coordination between key actors (within the GoM, between donors, and between GoM and donors). First, lack of government capacity hinders adaptation efforts. Currently, the GoM has limited technical knowledge and expertise on climate change-related issues. For example, as of June 2011, the Deputy Minister of MoMNr&E, the Honorable Ephraim Mganda Chiume, leads the LDC Group in the UNFCCC negotiations and is widely recognized for his expertise in this arena. However, the GoM has yet to institutionalize this kind of expertise and competence into its ministries' daily operations. Fortunately, many bilateral and multilateral donors (including Germany, UNDP, and others) are currently working with the GoM to strengthen its institutional capacity to effectively engage in the design, implementation, and monitoring of policy initiatives, such as those that focus on climate change-related challenges. For example, all of Germany's aid to Malawi is devoted to strengthening the institutional capacity of the government.

Nevertheless, most donors currently prefer to focus aid on individual projects that have tangible results in order to demonstrate the utility of aid both to their domestic constituencies and to the international audience. For instance, in 2009, USAID allocated 83 percent of its total appropriations for Malawi on health, education, and social assistance and roughly 16 percent on economic growth.[75] Since capacity building efforts are essential in ensuring that the GoM can meaningfully engage in the climate change arena, donors must recognize the urgency and importance of focusing on capacity building and commit substantial resources to help achieve this goal. Donors can allocate a higher percentage of their total aid funds to target key capacity issues within the GoM, such as the training and continuing education of ministerial staff in topics pertinent to climate change adaptation.

Second, lack of coordination and harmonization between various government ministries and donors hampers adaptation efforts. Several ministries within the GoM have taken on responsibilities for various aspects of the government's response to climate change. With the creation of NPMCC, donors hope to improve the coordination mechanism within the GoM by bringing together MoMNr&E's technical expertise and MoDPC's capacity to mainstream climate change adaptation into Malawi's national development planning. Whether the new program will facilitate better coordination remains to be seen. However, at least the NPMCC provides an important venue for all relevant actors to discuss climate change adaptation-related issues in a more systematic and structured manner.

On the donor side, Norway and DfID have created the Joint Resilience Unit (JRU) in Lilongwe as a venue for all donor agencies to collaborate on climate change-related efforts. JRU is still quite new and its effectiveness in strengthening donor harmonization has yet to be determined. The GoM's Sector Working Group on Climate Change serves as the main mechanism for coordinating efforts between donors and the GoM. This initiative invites all donors to participate on discussions regarding climate issues in the country. The formation of this sector working group aims to strengthening communication, collaboration, and harmonization between donors and various government ministries on the subject of climate change. It remains to be seen whether over time this sector working group can function effectively in solidifying an overarching approach toward climate change that is supported by all relevant ministries, donors, and NGOs. The creation of these mechanisms illustrates the GoM and donors' recognition of the existing coordination issues and their commitment to address these issues. Going forward all relevant actors must remain committed to improving coordination and harmonizing their efforts on the climate change front.

## Ground Truthing Climate Adaptation in Malawi

*Chia Lagoon Phase II - Management for Adaptation to Climate Change*

Chia Lagoon Phase II is a five-year $4.3 million project funded by Norway and implemented by Total Land Care (TLC), a Malawian NGO. It is Norway's flagship adaptation project in Malawi. This project illustrates the extent to which climate change adaptation strategies in Malawi are mainly targeted at improving food security. Even this project, which is meant to explicitly address climate change, is still doing so within the frame of food security. This example demonstrates the obstacles that food security projects must overcome in order to effectively address vulnerability to climate change. Chia Lagoon Phase II encourages farmers to adopt new agriculture technologies that reduce long-term vulnerability to climate change. However, before farmers use these new technologies on a large scale, they want to see evidence that these technologies produce sufficient yields in the short term.

Chia Lagoon Phase II is currently being implemented in 10 Extension Planning Areas (EPAs). While in Malawi in March of 2011, the CCAPS research team made a site visit to one of the EPAs where TLC is implementing the project. Researchers visited four different communities that are using a variety of strategies to adapt to climate change. Each community worked directly with TLC to decide which project was the most appropriate for them.

Two of the communities the team visited were implementing conservation agriculture projects. Conservation agriculture has three principles: minimum tillage to reduce rainfall runoff, residue retention, and crop rotation. TLC promotes planting "on contour" as opposed to planting on ridges (which is the most common farming technique used in Malawi). Planting "on contour" helps to reduce runoff. TLC also encourages farmers to put old vegetation in their fields instead of burning it because this technique increases the nutrients in the soil. In one farmer's field, the team saw a newly planted "fertilizer tree" called Faidherbia Albida. These trees have a reverse cycle from most other plants and shed their leaves during the planting season, which then act as a natural fertilizer for crops. In another field they saw an example of crop diversification where other crops had been planted amongst maize.

The third community visited was doing an afforestation project. Before the project began, the women of the community relied on a protected forest area for firewood. Since this was illegal, the women were often detained while bringing back wood. TLC helped the community plant trees and taught them how to use the new trees in a sustainable way so that they no longer must resort to deforesting the protected areas. TLC has also encouraged community members to switch to new types of ovens that are more fuel-efficient. The amount of wood that would last for the traditional oven for only three or four days now lasts for over a month when using the new oven.

In the last community, the team met a farmer who raised livestock as a form of enterprise development and income diversification. This farmer heard about TLC on a radio program and began working with the organization. The farmer used to rely solely on maize but now he has several goats – he can sell them and their milk or use them to feed his family. He also uses their manure to make fertilizer. This farmer was also using some conservation agriculture techniques in his maize fields – he had diversified his crops to an extent and was also experimenting with contour planting in one section of his field to see how effective it was. This reiterated that convincing farmers to change their traditional ways of planting would not be an easy task. Many farmers need to see results before embracing new farming techniques. This makes addressing climate change adaptation through food security projects somewhat challenging.

# CHAPTER 3

## Ethiopia: A Case Study on Adaptation Aid and Coordination Efforts

*by Nancy Peek, Valerie Schillaci, Jessica Tibbets, Kelly Usher, and Kathryn Yeager*

Ethiopia's population is largely comprised of agriculturalists and pastoralists, populations that are especially vulnerable to climate change due to their dependence on rain and healthy land. As these populations are less able to adapt quickly to climate change, it is important to determine if adaptation aid is going to people who need it most. Ethiopia is beginning to mobilize external and internal resources to pursue adaptation strategies. However, challenges to implementation still plague the country's efforts.

Ethiopia is an important case study based on its aid dependency and primacy in adaptation aid packages to Africa, its vulnerability profile, and the country's role in representing Africa in climate change discussions. The research team also selected Ethiopia as a case study because its population is heavily dependent on rain-fed agriculture, making it vulnerable to food insecurity due to unpredictable changes in rain patterns attributed to climate change.

Between 2005 and 2008, Ethiopia received the third highest amount of development assistance in Africa, with $9.3 billion in total commitments according to AidData. In 2009, official development assistance (ODA) accounted for roughly 13 percent of Ethiopia's gross national income, and in 2002, ODA comprised 81 percent of central government expense.[76] Within Ethiopia's aid portfolio, climate change adaptation makes up three percent of commitments, as calculated using the methodology outlined in chapter one of this report.[77] On average, only 0.5 percent of aid received by African countries is directly relevant to climate change adaptation. As such, in relative terms, Ethiopia received more climate aid through development assistance channels than other countries on the continent. Furthermore, Ethiopia's government has played a role in climate change awareness. In 2009, then Ethiopian Prime Minister Meles Zenawi was named coordinator of the Committee of African Heads of State and Government on Climate Change.[78] In 2010, this appointment was followed by his selection by the African Union as the coordinator of the African Conference on Climate Change. These appointments placed Prime Minister Meles – and Ethiopia – in a key role for the formulation and articulation of the continent's stance and demands on climate change.[79]

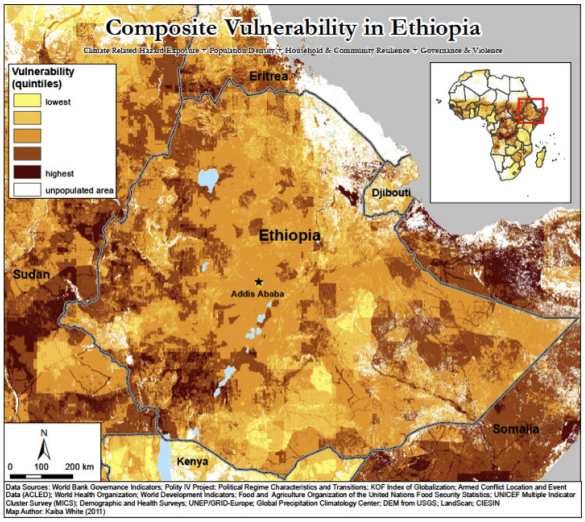
The aim of this case study on Ethiopia is to improve the understanding of how climate change aid projects are coordinated and tracked in Africa. According to the research team's literature review and field interviews, it is evident that there is widespread acceptance in Ethiopia that climate change is a problem and adaptation is an important part of development. However, capacity and coordination problems can cause both government and donors to stagnate in gaining traction on climate change adaptation programs.

This chapter focuses on climate change adaptation projects and the coordination efforts of donors, the Government of Ethiopia (GoE), and NGO recipients in Ethiopia. The first section describes Ethiopia's vulnerabilities, according to interviews with various organizations. The second section defines adaptation and explains the institutional landscape of ODA in Ethiopia, focusing specifically on adaptation funds. The final section evaluates capacity and coordination challenges between GoE ministries, NGOs, donors, and recipients of adaptation projects.

### VULNERABILITY TO CLIMATE CHANGE IN ETHIOPIA

Africa as a continent is highly vulnerable to climate change. In East Africa, Ethiopia's vulnerability to climate change has garnered widespread international attention and is well documented by international development agencies and think tanks.[80] These assessments reveal that Ethiopia's vulnerability consists of broad underlying

*Figure 11. Composite Vulnerability in Ethiopia*




*Ethiopia has a diverse vulnerability landscape according to the CCAPS climate security vulnerability model developed by CCAPS researchers. The model utilizes four main sources of vulnerability: physical exposure to climate-related hazards, population density, household and community resilience, and governance and political violence.*[81]

challenges to development such as poverty, reliance on agriculture, rain variability, and little access to irrigation and other new technology (see Table 4). Ethiopia's composite vulnerability is represented visually in Figure 11.

Poverty and reliance on agriculture, rain variability, and a lack of irrigation and new technology have all contributed to the vulnerability of Ethiopia's people to climate change. However, Ethiopians are acutely aware of their vulnerability to climate change and rainfall variability. Ethiopians are also aware of the need for appropriate adaptation initiatives, and they lobby for an adequate response from international development agencies and the GoE. NGOs are already responding to the lack of services with a variety of methods. One local NGO, for example, has implemented a range of adaptation initiatives, including small-scale irrigation, dairy farming, community irrigation, and women's empowerment programs focusing on education and health.

*Table 4. Ethiopia's Vulnerability*

| Factor of Vulnerability | Indicators |
|---|---|
| Poverty[82] | • 39 percent of the total population lives on less than $1.25 a day.<br>• GDP per capita is ranked 214 out of 228, globally.<br>• Weak education, health, and sanitation indicators reflect a lack of core development. |
| Reliance on agriculture[83,84,85] | • Agriculture accounts for 85 percent of employment and 45 percent of GDP.<br>• GDP and livelihoods follow trends in rainfall. |
| Rain variability[86,87] | • Ethiopia is plagued by droughts and flooding, caused by highly varied and erratic rainfall.<br>• Droughts deprive crops of water.<br>Storms cause flooding, which ruins crops and degrades soil. |
| Little access to new technology[88] | • Only 13 percent of irrigable farming land was irrigated at the end of 2006.<br>• Antiquated farming techniques are still used, while pesticides and fertilizer are rarely used. |

## CLIMATE CHANGE ADAPTATION AND DEVELOPMENT

In assessing approaches to vulnerability and adaptation on the ground, four key problems emerge: the difficulty of clearly defining adaptation, the influence of international trends on project categorization, funneling new funds through existing programs, and an implementation gap between policy made at headquarters and its application in the field. This section will discuss these problems' impact on tracking adaptation aid flows.

**Perceptions of Vulnerability and Adaptation on the Ground**

During interviews, development officials acknowledged that Ethiopia is extremely vulnerable to climate change.[89] Development officials most often named Ethiopia's food insecure woredas, or districts, and pastoralist areas as most vulnerable. However, opinions vary as to which areas are most food insecure and in most need of assistance. No interagency vulnerability assessment exists, and consequently, organizations' adaptation targets and initiatives may overlap or fail to address areas most in need. Varying perceptions of vulnerability among actors in climate change adaptation can result in mixed, and perhaps contradictory, adaptation program implementation strategies in the field. Some vulnerable areas may be targeted by various organizations, while others may be missed altogether.

Donors often use the term adaptation when referring to climate change related projects, but interviews with aid organizations in Ethiopia revealed that they lack a formal, consistent definition of what constitutes an adaptation project. Though donors and implementing partners refer to the UNFCCC's formal definition of adaptation, it appears that interpretations of this definition are subjective. Bilateral donors report a constant debate over the meaning of climate change adaptation. Their administrations have no specific guidelines to determine whether or not a project is adaptation. In fact, the United Kingdom's Department for International Development (DfID) uses the phrase "climate change resilience" and the U.S. Agency for International Development (USAID) uses "climate-proofing" to describe adaptation's role in their projects. In general, field interviews reveal that, despite the disagreement and confusion concerning "adaptation," development agencies also concede that descriptive terminology is interchangeable, even faddish.

**Challenges to Tracking Adaptation Funds**

The lack of a definition for adaptation combined with the trendiness of climate change funding often results in arbitrary categorization of projects. Policymakers and aid professionals can easily label projects adaptation with little reason beyond the international emphasis on the subject or an individual's personal bias. Furthermore, Amharic, Ethiopia's official language, does not differentiate between adaptation and mitigation. Rather, tackling climate change is addressed through one term, Matatam, which conveys a sense of defending and protecting.

Currently, climate change has garnered attention in international development, although it was a pervasive influence on development planning in Ethiopia long before it became popular in the international arena. Agricultural programs that help Ethiopia's subsistence farmers adapt to changing climates have been the focus of development programs since the 1980s; however, it was not until recently that organizations and international donors began categorizing these as adaptation projects rather than food security.

The Productive Safety Net Program (PSNP), which is a large multi-donor development program, is an example of how labels change to fit international trends. At its inception, the PSNP was designed to increase the efficiency of food insecurity response systems in Ethiopia. Though it addresses climate change, the PSNP was not labeled as an adaptation program until the international agenda encouraged the use of adaptation rhetoric in development. The content of programs is not changing to address climate change; instead, donors change the terminology they employ in describing their programs.

In addition to international trends, aid agencies face significant barriers to effective implementation of stand-alone adaptation projects. The co-dependent nature of adaptation and development in Ethiopia makes it difficult to design and implement projects that are exclusively adaptation. Many organizations working on the ground address food security, which is inherently tied to climate change because of Ethiopia's reliance on rain-fed agriculture. As a result, many of the most important development programs closely resemble adaptation programs.

Most donors expressed their desire to utilize existing frameworks for climate change programs rather than creating new, parallel structures. As adaptation funding grows on an international scale, organizations working on the

ground in Ethiopia generally plan on funneling new funds through the existing project framework rather than creating new adaptation programs. As programs are renamed and refunded under the auspices of climate change adaptation, the lines between adaptation and development at large will be blurred further.

The disconnect between headquarters' and field offices' perceptions of climate change and adaptation exacerbates the already blurred lines between development and adaptation project implementation. The effects of climate change for policy makers are very different than the effects of climate change felt on the ground, leading at times to divergent ideas about the best way to address adaptation. The tug of war between headquarters' priorities and the most immediate needs on the ground can often cause tension between a country office and headquarters. The tension only grows as policymakers prioritize domestic issues and voter satisfaction while in-country development workers prioritize specific development needs.

The financial policies of a development agency's headquarters also create problems for implementation and tracking. Many agencies receive money from headquarters that is already categorized based on the fund it came from, and this categorization cannot be adjusted to reflect other benefits the money has on the ground. For example, money labeled education that funds a class for farmers on crop diversification would be recorded as education without accounting for the adaptation outcomes. Likewise, funds earmarked for specific purposes restrict the ability of country teams to allocate them in the most efficient way. This lack of flexibility, due to earmarks or disagreement between headquarters and the field, can result in misinterpretation of the use of funds, added tension between headquarters and country offices, and a lack of standards across donors in terms of what constitutes climate change adaptation programs.

How aid agencies discuss and implement adaptation projects affects their ability to effectively track adaptation aid flows. The challenges discussed above create a situation in which tracking the amount of aid going to new adaptation activities becomes an arbitrary and subjective process. This ultimately leads to ineffective and inconsistent tracking of aid for adaptation.

## CAPACITY AND COORDINATION CHALLENGES

Ethiopia's development plan from 2005 to 2010, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), aimed to set "strategic goals towards the realization of the environmentally sound development vision of Ethiopia."[90] It did not directly address climate change, but attempted to strengthen environmental institutions and reinforce the resilience of agricultural and pastoralist communities through projects similar to those now described as adaptation.[91] The current development plan, the Growth and Transformation Plan (GTP), directly addresses climate variability, demonstrating the increasing importance of climate change adaptation projects in combating poverty and decreasing food insecurity. The plan also intends to build "a carbon neutral and climate resilient economy" to guard the country against future climate issues.[92]

These plans, along with the Ethiopian prime minister's role as a spokesperson for African climate change institutions, provide a positive foundation for the country's response to climate change. The problem for Ethiopia in developing its response to climate change is that the relevant institutions – government, NGOs and international organizations – lack the necessary capacity and established coordination mechanisms to effectively implement the climate change adaptation agenda.

### The Capacity Challenge[93]

Donors and the government itself recognize that the GoE lacks the capacity to deal with climate change adaptation effectively. One official identified capacity as the most important focus for development within the government. The GoE alone does not have sufficient ability to absorb climate change adaptation funds nor plan and implement adaptation projects. This lack of ability is largely due to the limitations of the Ethiopian Environmental Protection Authority (EPA), the agency given responsibility and authority over climate change regulation and planning.

The lead climate change agency in the GoE is the Ethiopian Environmental Protection Authority (EPA). The EPA is a small government agency mandated to set regulations and standards for the protection of the environment. Given that climate change is an issue that affects multiple government sectors, the EPA is well-positioned to coordinate the GoE's climate change strategy with other relevant ministries. However, while the reasoning to choose the EPA to lead Ethiopia's climate change strategy is sound, the decision to select the EPA as the responsible agency for climate change gave little consideration to the agency's ability to effectively handle that responsibility.

The EPA does not implement its own programs or projects, is not a designated ministry within the GoE, like the Ministry of Agriculture (MoA), and has fewer resources than other government agencies. As a non-implementing agency, the EPA has very little experience in working with international donors. Conversely, the Ministries of Agriculture and Water and Energy have much more experience working with donors to absorb funds and implement development projects. Due to these limitations, the EPA directors spend a lot of time working with and managing donors on climate change issues. This leaves little time for the EPA directors to perform their duties in regulating the environment and coordinating the GoE's interagency response to climate change. The EPA is also spatially restricted to Addis Ababa, while the majority of adaptation problems and projects take place outside of the city.

There are also some concerns, as expressed in interviews, that the GoE is losing staff to multilateral agencies and international organizations in Addis Ababa. Occasionally, some GoE employees leave the government to go work for international agencies, enticed by higher salaries and better benefits packages. In this way, development institutions may be draining the Ethiopian government of its brainpower and ability to effectively address climate change adaptation.

Weak capacity is a major obstacle for the GoE in managing and implementing its climate change adaptation strategy. Two donors, DfID and the United Nations Development Programme (UNDP), are specifically targeting projects to build climate change adaptation capacity within the GoE. DfID is currently funding a capacity building project called the Strategic Climate Institutions Program (SCIP). SCIP is a program designed to build institutional capacity to increase resiliency to climate change and adapt to future climate variability.[94] The program aims to increase the adaptive capacity of the GoE, civil society, and the private sector.

UNDP is also funding a capacity building program for the GoE. The Climate Resilience Green Economic Strategy has yet to be implemented in Ethiopia but is in the planning stages. This new approach will consist of a pool of money to which donors can contribute directly and from which the government can withdraw funds for future climate resilience projects. The UNDP hopes to equip the Ethiopian government with the necessary skills to eventually take over the fund. The strategy allows the government to experiment with projects and programs to determine what works best without the laborious process of applying and justifying funds for individual projects.

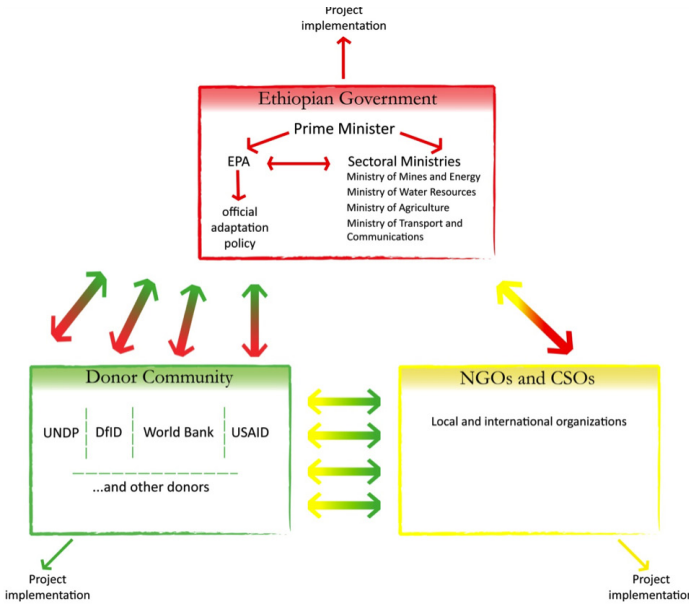
The GoE has proven its ability to devise ambitious development policies, plans, and strategies, such as the GTP's goal of creating a carbon-neutral economy and eliminating food insecurity through adaptation projects. However, the government often runs into difficulties as it tries to implement projects and programs. With time and the dedication of resources to projects like the capacity building initiatives of DFID and UNDP, the GoE will likely be able to meet its bold development goals and climate change adaptation needs. In the meantime, the GoE is constrained in its ability to address climate change. ODA and foreign technical expertise are needed to help fill in the capacity and resource gaps the GoE faces in adapting to climate change.

**The Coordination Challenge**

A key principle of aid effectiveness, as set out by the Paris Declaration, is harmonization. The Development Assistance Group in Ethiopia outlines three benefits of harmonization and coordination between donors: improves

expediency of implementing development programs, reduces transaction costs associated with ODA, and builds capacity for the administration of aid.[95] Coordinating mechanisms between development institutions are necessary to ensure there are no duplications of climate change adaptation efforts and misuse of scare resources. Donors and government agencies promote the importance of coordination, but, in reality, coordination is very time consuming and many donors do not prioritize these efforts. Ethiopia faces a serious hurdle in successfully responding to climate change because of a lack of institutional coordination between development actors. In Ethiopia particularly, the lack of government capacity exacerbates coordination problems within the government, as well as between the government and outside donor organizations.

*Figure 12. Institutional Relationships in Ethiopia*




The government faces coordination problems for climate change adaptation aid, including a general lack of inter-agency communication and a sense of competition for leadership and resources between GoE ministries. Donor agencies also do not communicate well with each other, and they often pursue their own agendas unilaterally with the GoE. Meanwhile, NGOs and civil society organizations (CSOs) are frequently left out of climate change coordination discussions.

Some of this failure to communicate may be due to the intricacy of the system of interactions between those working in climate change and development and within entities themselves. The relationships are complicated, involving three separate groups: the GoE, donors, and NGOs and CSOs (see Figure 12).

The EPA is responsible for creating Ethiopia's adaptation and mitigation policy. The agency sets the agenda for incorporating climate change into development projects, consulting sectoral ministries where appropriate and implementing approved projects through NGOs, CSOs, and at times through the government itself. However, planning and implementation are not solely the business of the government – the institutional landscape is more complicated than that. Donors work with the EPA for approval of proposed aid projects, currently on a one-on-one basis, then implement approved projects through NGOs and CSOs, although the donors themselves may implement a very limited number of projects. NGOs and CSOs also implement their own projects according to the priorities and goals set by the EPA, and their dialogue with donors and the government concerning their experiences on the ground may be taken into consideration in the development of future projects and priorities.

**Government Inter-agency Coordination**

Coordination for climate change response begins with the government, and the GoE struggles with coordination even among government agencies. In 2008, the main GoE ministry on climate change was the MoA, based on its ability to provide leadership in agriculture adaptation efforts. At that time the World Bank was also engaged in working with the MoA to devise a draft strategy on climate change. However, clear government authority on climate change did not yet rest with one particular agency, as the GoE was still trying to form its climate change strategy.

As the UNFCCC Conference of the Parties 15 (COP 15) approached, climate change gained more attention in the international arena and GoE ministries competed for leadership on climate change policy and access to adaptation

resources. Shortly before COP 15, the Ethiopian prime minister officially appointed the EPA the lead GoE climate change agency, to avoid giving preference to one sectoral ministry over others. The MoA took the backseat at the UNFCCC negotiations, and the WB draft climate change strategy was never presented. The unclear designation of ministerial authority and resulting competition for leadership and resources created friction between several GoE ministries, particularly the MoA and the EPA, which still exists today.

This sense of rivalry amongst the ministries hinders inter-agency coordination efforts. As one key international agency official put it, "coordination practically doesn't exist." Ministries and agencies barely communicate. GoE agencies are not networked and rarely go out of their way to communicate with each other. One donor agency admitted that they often find themselves acting as government inter-agency communicators. Coordination among ministries will be impossible without improving inter-agency communication networks.

**EPA Coordination Efforts and Challenges**

The EPA is likely to remain the leader on Ethiopian climate change planning in the future. The EPA, despite a shortage of resources and qualified personnel, is tackling the huge task of coordinating the country's climate change strategy. Thus far the agency has not proven it is able to coordinate effectively with the limited resources it does have.

A frequent concern of donors in Addis Ababa is that the EPA can be challenging to work with and does not collaborate well with other government agencies. Many development experts interviewed voiced the concern that the EPA does not consult other GoE or development agencies in developing strategy. Rather than use its leadership role to foster a collaborative and cooperative environment, the EPA seems to use its authority to dictate to other GoE agencies. The agency is also not institutionally set up in a way that allows for efficient coordination. The EPA reports directly to the prime minister and is not accountable to any other government agencies. These factors combine to produce an environment that is not conducive for coordination between GoE ministries.

Despite the institutional challenges the EPA faces, the agency is working hard to develop a new climate change adaptation strategy for Ethiopia. Several donors said that the EPA has essentially shelved Ethiopia's NAPA, which was developed in 2007 with the cooperation of international agencies. One government official confirmed the donors' impressions by saying that the NAPA was just a first run exercise by the government that was somewhat hastily done, little more than a list of projects. The director suggested that the GoE develop a new, more strategic climate change adaptation plan to replace the NAPA, and the EPA is currently in the process of drafting that new strategy.

The EPA is developing a plan that outlines 20 problems caused by climate change, assigning relevant sectoral ministries to develop a solution to each problem. It also emphasizes the role of local governments in adequately addressing climate change, since local governments are better suited to understand the specific context of adaptation problems in order to efficiently address them.[96] This new plan appears to begin to address some of the EPA's capacity and coordination problems earlier discussed in this chapter.

The GoE, particularly the EPA, does not shy away from its responsibility of developing a climate change adaptation strategy, and has in fact set an ambitious agenda. However, to successfully implement that agenda, inter-agency government coordination has to improve, and there are positive signs agencies are taking a step in the right direction. The EPA appears to be adopting a more collaborative approach for developing the new adaptation strategy by including at least 15 different ministries in drafting the strategy. In return, the sectoral ministries are assisting by providing feedback to the EPA. Hopefully, this spirit of cooperation will lead to more inter-agency coordination and, eventually, the establishment of official government communication networks and coordinating mechanisms.

### Donor Agency Coordination

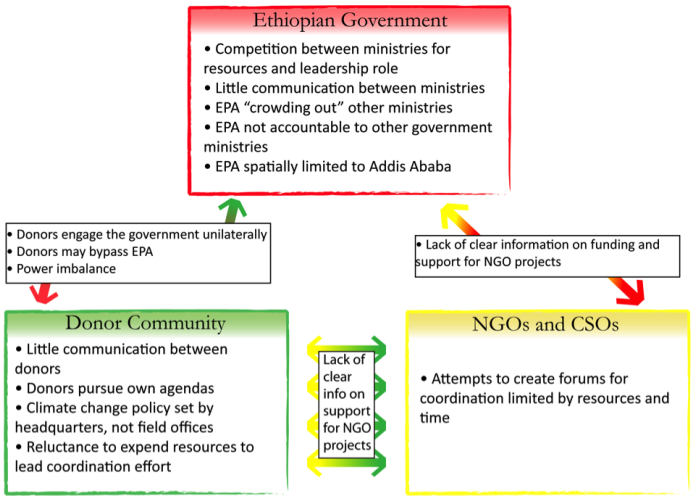
The Paris Declaration defines harmonization as when "donor countries coordinate, simplify procedures, and share information to avoid duplication."[97] After 27 interviews with bilateral and multilateral donor agencies in Addis Ababa it is apparent that when it comes to climate change adaptation aid to Ethiopia, most donors pursue their own agenda. Efforts to coordinate projects and agendas seem to take a backseat. Much like between government agencies, there is little communication among donors about climate change strategies. As one senior development environmental specialist put it, donors follow their own priorities and "let their flags fly high."

Climate change aid in particular presents unique coordination challenges because climate change is a very sensitive political subject in many donor governments. Domestic and international politics greatly influence the climate change agenda, and the media reports extensively on climate change topics. Donor governments' headquarters largely set the climate change aid policy, and their motivations can be political in nature rather than for the sake of helping people adapt. These different motivations have created a proliferation of climate change agendas, which, in turn, creates a highly fragmented environment. Donor coordination is difficult in that environment, as each agency must answer to its headquarters with a different agenda.

Despite the general lack of communication and coordination within the donor community, interviewees in Addis Ababa identified three major donors that have emerged as leaders for climate change adaptation aid in Ethiopia – DfID, UNDP, and the World Bank. UNDP and DfID are committing resources to building the GoE's capacity to respond to climate change, and the World Bank was one of the initial partners with the GoE in developing a climate change draft strategy. Recently the World Bank has stepped back from pushing the climate change agenda and has deferred to UNDP and DfID to take the lead on climate change coordination in the donor community. So far, even these leading donor agencies have been reluctant to commit to lead donor coordination efforts for climate change aid. One reason for this hesitance is that the government has yet to organize within itself on climate change issues. Donors do not want to appear to be undermining the GoE's adaptation strategy and would prefer to take the cue from the government.

Capacity constraints also hold donors back from leading coordination efforts. Within Addis Ababa, DfID has only one Climate Change Advisor, and the World Bank has just one Senior Environmental Specialist. The UNDP is somewhat better equipped to handle coordination efforts, as it has four to five employees working on climate change programs.[145] However, these few climate change specialists are increasingly busy as climate change has received greater attention and priority within Ethiopia; they have little time to devote to coordination. The task of coordinating the donor community's response to climate change in Ethiopia is a daunting one, and to date no donors have volunteered their already scarce resources to planning and implementing a coordination mechanism.

*Figure 13. Coordination Challenges*




### Coordination Forums

Donors' reluctance to lead coordination has led local and international NGOs in Ethiopia to try several times to coordinate efforts in addressing climate change adaptation projects. These coordination groups include Climate Change Forum, Forum for the Environment, and Horn of Africa Regional

Environment Center. Another is the Africa Climate Change and Resilience Alliance (ACCRA), a consortium of the international NGOs such as CARE International, OXFAM, Save the Children, World Vision, and the Overseas Development Institute.

In addition to PSNP and other GoE initiatives, The Climate Change Forum of Ethiopia serves as a medium for sharing climate change adaptation knowledge and best practices. Established by the prime minister in 2006, the desired outcome of the forum is for the MoA and EPA to cooperate with donors and other ministries on environmental projects. The goal is to strengthen the coordination in geographical locations of projects so that projects are not duplicated. Unfortunately, these NGOs and forums do not have sufficient resources and staff to support coordination forums, and donors and GoE have not supplemented adequately for the forums to make a substantial difference.

**Coordination Challenges Between the Government, Donors and NGOs**

While the coordination within the groups of government, donors, and NGOs/CSOs is problematic, it is not the only obstacle to Ethiopia's development and climate change adaptation. The coordination relationships between each of these sectors also appear to be flawed (see Figure 13). Coordination between the GoE and the donor community is critical, as Ethiopia is highly dependent on foreign aid. However, the relationship between government and donors is characterized by a lack of equal collaboration and a marked power imbalance. Donors mostly engage with the government on a unilateral basis, planning projects alone and then taking them straight to the relevant ministry.[146] The GoE is not in a position to properly influence project development and implementation, as the donors are the ones with the funding. One top GoE official said that as the recipients of aid they do not have power to negotiate, and the government must accept the donors' funding conditions and terms.

The relationship between donors and government is also characterized by the nature of past working relationships. For example, in interviews, representatives from the World Bank and USAID specifically mentioned they have a good working relationship with the MoA. Those donors and the MoA have a long history of implementing successful agricultural projects, and they are comfortable working together. Naturally, these donors want to continue to work with the MoA to plan and implement new climate change adaptations projects. It seems that donor agencies are not as comfortable working with other agencies, like the EPA, with which they do not have experience. Donors and ministries that only recently began working together may not coordinate as effectively as other more established working relationships. Local NGOs face obstacles when seeking a supporting agency to fund their projects. One local NGO director said the process of finding support is time-consuming and confusing, with some donors providing funding directly and others providing funding only through the local Ethiopian government offices.

**Productive Safety Net Program: An Example of Effective Coordination**

While it is clear that major development institutions in Ethiopia have room for improvement when it comes to coordination, the government and donor agencies do have experience successfully coordinating major projects. The Productive Safety Net Program (PSNP) represents a success story of donor and government coordination. The PSNP is the largest development program in Ethiopia, carried out in every region of the country with over 8 million beneficiaries. The PSNP aims to improve food and asset security by providing public works employment opportunities and cash transfers to Ethiopia's most food insecure populations.[98]

The 10 PSNP donor agencies began coordinating from the first stage of the project in program development. From the beginning of the program, all donors contributed to the PSNP design document and were able to create common program expectations and desired results. This project design process created "harmonized ownership" of the program among all the donors.

The donors also instituted several coordinating mechanisms for implementation of the PSNP. The PSNP is funded by a multi-donor trust fund, which makes tracking and accounting of funds considerably less complicated than if each donor agency separately funded individual projects. Also, all donors share a joint strategic framework for project implementation, and all implementing partners are held to the same standards and follow the same project implementation manual. A key component of PSNP's coordination success is the Donor Coordination Team that is housed at the World Bank. The Donor Coordination Team is an independent group that works to achieve consensus within the donor group. They also act as the interface between donors and the government.

The PSNP seems like an unlikely candidate for achieving donor harmonization, as it is such a massive program that covers 262 districts in eight regions of the country.[99] A member of the Donor Coordination Team discussed the inherent tensions between the demands of multiple donor governments and the interests of the GoE and acknowledged the difficulties in coordinating donor commitments due to agencies' different budget timelines and funding streams. Despite these few challenges, development experts and practitioners in Addis Ababa put forth the PSNP coordination model as an example of a coordination mechanism that should be implemented elsewhere, including for climate change adaptation projects.

The success of the PSNP and its Donor Coordination Team prove that successful coordination between donors and the government in Ethiopia is possible, and it is just one of the possible solutions discussed by development workers in various interviews in Ethiopia. Section IV synthesizes these solutions into a short list of recommendations based on best practices and viability of implementation.

## RECOMMENDATIONS AND CONCLUSIONS

While organizations emphasize different communities with their programs, there appears to be common ground on the basics of vulnerability in Ethiopia: rain variability causes vulnerability in the overwhelmingly agricultural country, which is then exacerbated by a host of other factors. Complications arise when considering the adaptation side of climate change. Challenges facing the tracking of adaptation aid consist of the lack of a common definition of adaptation, the arbitrary nature of project labeling, mainstreaming adaptation into existing development frameworks, and the disconnect between development agency headquarters and country offices. Even more complications develop during the implementation of adaptation projects, as GoE agencies struggle against a lack of capacity and the government and donors fail to coordinate within and between their respective groups.

Below are recommendations to address aid transparency and effectiveness in Ethiopia:

• Develop an agreed-upon definition for climate change adaptation. This will provide consistency for tracking aid projects across time and countries. In the absence of an agreed-upon definition, donors should develop standards for coding and reporting to eliminate the arbitrary nature of defining a project's goals. Creating more useful definitions of project goals, even without consensus on adaptation, can help donors determine how much aid is going to climate change programs, an important part of participating in the UNFCCC talks. Better tracking also helps governments determine whether priorities for development are being addressed adequately, as more specific and reliable information is available on what is being financed.

• Incorporate local level organizations and government agencies where possible. Local level organizations and agencies are more likely to be able to adapt plans to context-specific local needs, making financing more effective, and increasing projects' impact. Working at the local level could also create new opportunities for project beneficiaries to offer feedback, increasing accountability.

• Increase GoE capacity. Donors need to fund more projects focused on investing directly in GoE capacity, like those of DfID and UNDP. The prime minister and the EPA need to be clear on where duties lie among government

agencies, which need to know who has the authority to set the adaptation agenda and approve projects. Finally, donors must to coordinate in approaching the government for planning and project approval.

• Find a leader to direct donor coordination. Donors need a leader to convene donor meetings and direct planning and dialogue. The government of Ethiopia, once it has acquired greater capacity, needs to take the lead on fostering donor coordination, perhaps through a neutral actor like the Ethiopian Ministry of Finance. From the donor pool, since many agencies are reluctant to expend their limited resources on directing the effort, a neutral party such as the Development Assistance Group may be a good choice to lead.

• Encourage larger scale projects. These projects can reduce aid overlap and help field offices target projects according to the needs of the country, the greater aid community's priorities, and an agency's own headquarters' priorities. The success of the PSNP and its Donor Coordination Team indicates that they are a viable option for donors.

The solutions to these problems are interconnected. Better aid tracking leads to improved coordination. Increased government capacity leads to improved coordination. Donor coordination leads to greater government capacity. The process to address these issues has begun, but it is key that significant progress is made in Ethiopia to create a sustainable and resilient population, guarded against climate change.

# APPENDIX

## Geomapping Process, Method, and Limitations

The following Appendix describes the geocoding process CCAPS used, which is modeled after geocoding guidelines developed by AidData and Uppsala University.

Geocoding relies heavily on donor documents. CCAPS coders began by locating all the relevant project documents for the selected project. For example, a typical African Development Bank (AfDB) project has a Project Portfolio and a Project Follow Up Form available through the AfDB website. Many AfDB projects (approximately 80 percent or more) also have an Appraisal Report available through the organization's website. For this study's purposes, the AfDB, via AidData, provided us with all the relevant documents for active projects in Africa.

Navigating through long project documents and parsing out the relevant geographical information can be difficult and tedious. Once the coder has collected the relevant documents, they then identified all the locations, including administrative districts traversed by roads or power lines when applicable. Finding the locations in a document can be challenging if the organization does not have standard reporting requirements, which is often the case. Many coders found that the AfDB reported the locations for the project under the subheading "Project Description" across documents. However, AfDB documents are inconsistent on the placement of the "Project Description" section across various document types; in the Appraisal Reports the "Project Description" is found in section four, where as in the Project Portfolio it is in section two. The longer Appraisal Reports often contain annexes, which have tables, and/or maps, which coders will refer to when inputting the locations.

Once locations have been identified within the project document, coders pull location information from the GeoNames database as illustrated in Figure A1.[100] The coder then copies and pastes the information into a web-based coding interface (see Figure A2). The interface automatically transfers the latitude, longitude, GeoName, and GeonameID into the input screen along with first and second administrative district if they have values in the GeoNames database. The majority of locations in the GeoNames database do not include second administrative level (district, municipality, or commune) information, and a smaller portion of locations lack even first level (state, province, or governorate) administrative information. In such instances, the coder plots the location into Google Earth and uses administrative districts imported from the Global Administrative Areas (GADM) spatial database.[101]

*Figure A1.*


*Figure A2.*

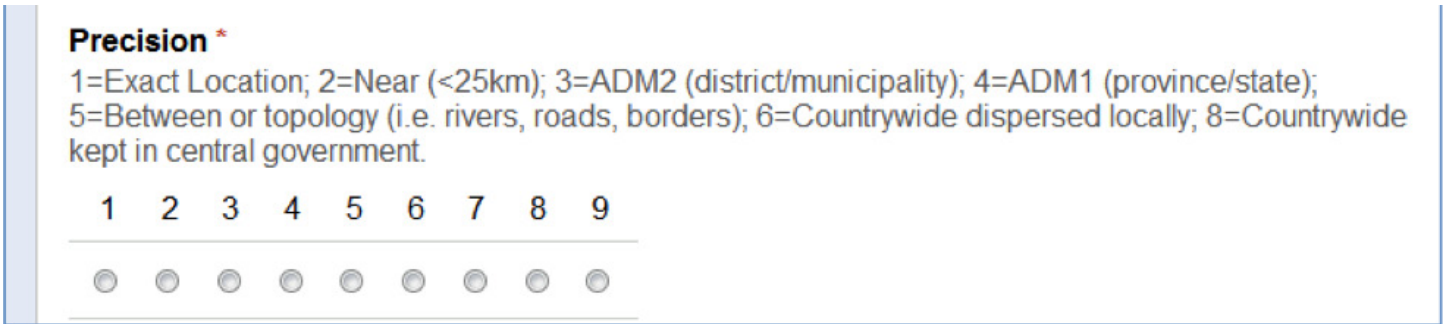

The coder then uses the UCDP/AidData Geocoding Codebook to record the level of geographic information found for each location.[102] Coders enter a precision code for the location based on a 1–8 coding scheme (see Figure A3). Codes "7" and "9" represent unclear or unknown locations which were not used since at least country level data for all projects was available.

The coder repeats the process described above separately for each individual location within the project document. In other words, if there are ten locations in the document, the coder performs the entire process ten separate times.

Using an arbitration process ensured the highest degree of accuracy and consistency. A senior researcher resolved

all instances in which discrepancies existed between coders on how a location should be coded. Like coding, arbitration was also conducted using a web-based interface that reduced bias and human error.

*Figure A3.*




## LESSONS FOR FUTURE GEOCODING

The following subsection provides an in depth discussion on some of the most common challenges faced by CCAPS researchers while geocoding AfDB projects. Although these challenges address AfDB projects, similar projects can be expected with other donors, particularly large donors that cover a diverse range of projects or large geographical areas.

### Data Discovery

Research assistants referred to three AfDB documents to identify project locations: 1) Project Portfolios posted on the AfDB website under the "Project Portfolios" tab, 2) Supplementary documents posted on the AfDB website under "Documents" tab, and 3) Proposal Documents found through general web searches.

The "Project Portfolio" is a short (1 to 3 pages) document that provides a general overview of the project including cost, approval and start dates, status (either open or closed), implementing agency and a very broad location. The locations given in the project portfolios are at the city level for single local projects, state level for multiple locations in a single state, or "country-wide" for any larger element. The location designation under the project portfolio does not name or pinpoint locations, nor does it identify how many there are. Some documents refer to a number of new schools, hospitals, power stations, etc., but not their locations.

Supplementary documents on the AfDB website's "Documents" tab are more limiting than project portfolios and usually take the form of procurement documents and expression of interest requests. These documents sometimes contain very specific location data, but there is not a supplementary document for every project, or subproject.

The most useful document is the much longer appraisal document, which ranges from about 30 to over 60 pages depending on the project. Project Appraisals are also the most useful documents for World Bank projects due to their detail. AfDB Project Appraisal Documents usually reference locations in Section 4.2 "Project Target Areas and Beneficiaries" which covers locations and populations impacted by the project. Projects that cover a high number of locations usually include a detailed list of the locations with county and sub-county information in the Appendix and sometimes a map. While this information is highly useful for coding, information on if the project was actually completed as planned was not available.

### Lack of Precision and Ambiguity in Location Names

Lack of precision in donor documents and ambiguity in location names was another challenge faced by CCAPS researchers. Once the researcher fond the locations in various documents, they often encountered variations in place names. Larger populated areas usually have an official government recognized name, as well as several tribal

*Figure A4.*


and regional names. Rural areas and townships may only have regional names without official translated spellings. Naming variation is most prevalent in areas that intersect different tribal areas. The African Great Lake that lies along the border between Kenya and Uganda, for example, is officially called "Lake Victoria" throughout Kenya but still goes by its older name of "Nalubaale" in most of Uganda. Locations with multiple names become more complicated if the donor uses multiple names for one location within the same document. This situation may lead the researcher to believe that there is more than one location to geocode. For example an AfDB document for the Bujagali Hydropower Project, mentions "the hydropower station" on Lake Victoria as well as the "Nalubaale Dam," which is the proper name for the hydropower station, but may lead a coder to enter two locations for the dam.[103]

CCPAS researchers also encountered instances of one name representing multiple locations throughout a country. Decoding this phenomenon requires a high degree of familiarity with the geography and history of the region on the part of the coder, particularly third party coders. In coding a Ugandan electrification project, the Appraisal Report references the "Kawanda" substation but does not provide administrative district references. The GeoNames search results for "Kawanda, Uganda" are displayed at the right along with a map depicting the locations of the results (see Figures A4 and A5). This project included a map of the project area but the only references points, not actual grid coordinates (see Figure A6), which suggests that the third location (in green) is the correct one but, due to scale, it hard to say that with certainty.

*Figure A5.*

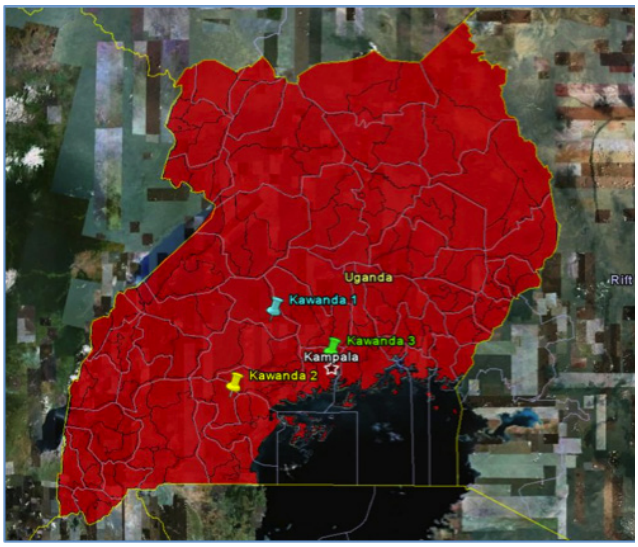
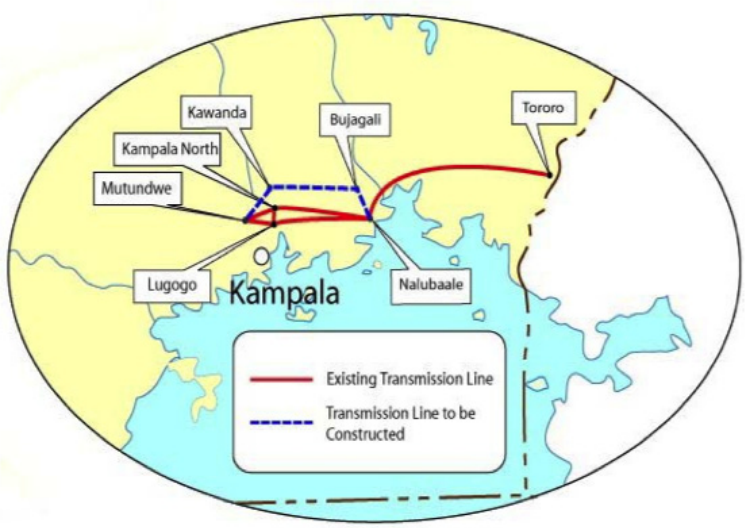



*Figure A6.*




In the example above, if the project document did not included a map, or the researcher did not feel certain of the location, the only option is to use a broader precision code. If a researcher was coding a project with the objective of building schools "throughout the country." the researcher would enter code "6" (countrywide, dispersed locally) if no other information was available. Other times a similar project would reference building schools and provides a list of provinces, but not exact locations within the province. In this case, the researcher would use the lowest administrative level possible for coding the individual projects, either a "3" if the smaller municipality was known or a "4" if the document only provided state/provincial data. Coding projects at regional or state level, however, all that can be determined is that the aid money went to a national or local government, but the money cannot be traced to its final location.

**Time Constraints**

The final geocoding limitation is the amount of time it takes to code each project. Researchers spent approximately 12 hours training on the coding process, led by a senior geocoding researcher. To ensure CCAPS reports the best data, each project was double-coded, meaning that two different researchers independently coded each project. Any discrepancies in the initial coding are resolved through a double-blind arbitration process performed by senior coders.

The time required for each project varies greatly depending on the type of project and length/layout of associated project documents, but it is possible to provide a breakdown for the three most common types of projects. The most straightforward project and least common are large projects in one location. These projects require limited research and take from 30 to 60 minutes apiece. A much more common project type is one in which multilateral organizations donate large amounts of funds for multiple construction projects (schools, hospitals, etc.) across a country. These projects require digging through the documents to identify the individual locations. If the researcher does his due diligence to find the names of the locations, this type of project could take three or more hours per coder. If the researched cannot find the documents then he is forced to code the project at a broad level (country wide in most cases) multiple times, which is of little help when it comes to mapping. The last type of project is large-scale multi-district construction like roads or power lines. These types of projects are the most time intensive because the researcher must cod every administrative division that the construction passes through as well as code the exact location of beginning and ending points.

Despite the challenges of geomapping, it still represents an excellent opportunity to improve aid transparency and inter-donor coordination. As geomapping international aid flow grows and more donor organizations gain experience with the process it should become more streamlined and universal. AidData already provides best practices for geocoding going forward and the process is not difficult to learn or implement.

# ENDNOTES

[1] United Nations Framework Convention on Climate Change (UNFCCC), *Report of the Conference of the Parties on Its Fifteenth Session*, Held in Copenhagen from 7 to 19 December 2009 (Bonn: UNFCCC, 2010).

[2] Where not otherwise noted, findings reported here are based on field interviews conducted in Ethiopia, Kenya, and Malawi, in December 2010 and March 2011. The research team interviewed politicians, government officials, non-governmental and international organization representatives, academics, and civil society representatives.

[3] All amounts are reported in constant 2000 U.S. dollars.

[4] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007* (Geneva: IPCC, 2010).

[5] IPCC, *Climate Change 2007*.

[6] This research builds on two publications by the CCAPS program. See Catherine Weaver and Christian Peratsakis, *International Development Assistance for Climate Change Adaptation: The Aid Scramble, CCAPS Policy Brief No. 3* (Austin: Strauss Center for International Security and Law, 2010); and Joshua W. Busby, Todd G. Smith, Kaiba L. White, and Shawn M. Strange, *Locating Climate Insecurity: Where Are the Most Vulnerable Places in Africa? CCAPS Working Paper No. 1* (Austin: Strauss Center for International Security and Law, 2010).

[7] Heather McGray, Anne Hammill, and Rob Bradley, with E. Lisa Schipper and Jo-Ellen Parry, *Weathering the Storm: Options for Framing Adaptation and Development* (Washington: World Resources Institute, 2007).

[8] Timmons J. Roberts and Christian M. Peratsakis, *What Counts as Adaptation? A Study in Support of Adaptation to Climate Change in DfID's Current Projects Internal Report for UK's Department for International Development*, 2010.

[9] Katharina and Axel Michaelowa, *Development Cooperation and Climate Change: Political-Economic Determinants of Adaptation Aid*, CIS Working Paper No. 69 (Zurich: ETH, 2011).

[10] A detailed explanation of this combined human-machine coding methodology is outlined in Roberts and Peratsakis (2010).

[11] Timmons J. Roberts and Christian Peratsakis, *Codebook: Climate Adaptation Coding* (Brown University and The University of Texas at Austin, 2010)

[12] To ensure inter-coder reliability, each project was double coded by the research team and discrepancies were arbitrated by a third person using a web-based interface. Two independent coders evaluated a given project based on the five coding schemes. An arbitrator then compared the two responses for consistency and selected the final coding based on their responses and reasoning.

[13] Martin Stadelmann, J. Timmons Roberts, and Axel Michaelowa, *Keeping a Big Promise: Options for Baselines to Assess "New and Additional" Climate Finance* (Center for Comparative and International Studies, University of Zurich, and Brown University, 2010). See also Martin Stadelmann, J. Timmons Roberts, and Saleemul Huq, *Baseline for Trust: Defining 'New and Additional' Climate Funding, IIED Briefing* (London: International Institute for Environment and Development, 2010) and Ari Huhtala, Stefano Curto, and Philippe Amborosi, *Monitoring Climate Finance and ODA* (Washington: The World Bank, 2010).

[14] AidData seeks to capture the universe of development finance and foreign aid. AidData includes project-level information from over 90 bilateral and multilateral donor organizations, including many previously unreported donor agencies. AidData played a leading role in geocoding development assistance projects. In 2009, AidData collaborated with Uppsala University to develop a georeferencing codebook for aid projects and then collaborated with the World Bank Institute (WBI) to geocode all active World Bank projects.

[15] Graduate student and faculty researchers traveled to Ethiopia, Kenya, and Malawi in December 2010 and March 2011 to conduct field research as part of this year-long Policy Research Project on tracking climate aid. Students also traveled to Washington, DC in February 2011 to conduct additional interviews with government representatives and non-governmental organizations. All interviews referenced in this report were conducted during this field work, unless otherwise noted. In addition, one member of the research team attended the annual UNFCCC Conference of the Parties in Cancun, Mexico in December 2010 to showcase preliminary research.

[16] Climate change came to the forefront of the development community with the creation of the UNFCCC in 1992 at the Rio Earth Summit. Attention to adaptation needs and efforts increased under the UNFCCC in two significant ways after 2005. First, the Nairobi Work Program in 2005 focused countries on the impacts of climate change and taking practical response measures. Second, the Bali Action Plan in 2007 identified adaptation as a key component to a long-term response to climate change.

[17] Busby et al., *Locating Climate Insecurity*. By the CCAPS assessment, countries can be vulnerable in a number of different ways. For example, vulnerability to climate change is greater in areas with poor governance, a lack of resources, or exposure to extreme weather events.

[18] For countries in Africa between 2005 and 2008, the Pearson correlation coefficient is .32 between the amount of adaptation aid and total aid to countries. This means that knowing the amount of aid a country receives does not give you much information about how

much adaptation aid they receive. South of the Sahara, North of the Sahara, Africa Regional, and AU were excluded from the recipient list for this calculation because they do not represent a single country. However, they change the calculation very little.

[19] For countries in Africa between 2005 and 2008, the Pearson correlation coefficient is .67 between number of adaptation aid projects and total aid projects to countries. South of the Sahara, North of the Sahara, Africa Regional, and AU were excluded from the recipient list for this calculation because they do not represent a single country. However, they change the calculation very little.

[20] Ethiopia's two largest projects were both funded by the IDA. The Pastoral Community Development Project II in 2008 was worth $64 million, and the Productive Safety Nets APL II in 2007 was worth $145.5 million. Both projects were expansive projects with numerous different activities, some of which specifically address adaptation.

[21] Donors can choose to classify projects as Africa Regional, North of the Sahara, or South of the Sahara if their project was not targeted to only one country.

[22] Through the Open Data Initiative, the World Bank provides extensive, easily accessible information on all projects on its website.

[23] The World Resource Institute report, *Weathering the Storm*, finds that there is a diverse array of adaptation projects. Moreover, the report describes the difficulty in trying to draw a clear line between adaptation funding and typical development aid. See Heather McGray, Anne Hammill, and Rob Bradley, with E. Lisa Schipper and Jo-Ellen Parry, *Weathering the Storm: Options for Framing Adaptation and Development* (Washington: World Resources Institute, 2007).

[24] This research does not consider disaster relief as adaptation aid. However, many projects had both relief and prevention components, in which case they were considered adaptive.

[25] Stadelmann et al., *Baseline for Trust*.

[26] A double-blind coding process with arbitration was used in this research to limit potential bias in the results. However, there were some issues with arbitrators' inconsistency in interpreting donor intentions, so projects worth over $1 million were re-arbitrated.

[27] In the summer 2012, USAID experimented with crowdsourced geomapping. More information on this is available at http://blog.usaid.gov/2012/06/with-a-little-help-from-the-crowd-usaid-increases-government-transparency.

[28] Huhtala et al., *Monitoring Climate Finance and ODA*, 2010.

[29] Development Gateway, "AMP and Off-budget Activities," presented at the AMP Knowledge Sharing Workshop, Nairobi, Kenya, December 14-16, 2010.

[30] National Adaptation Programs of Action (NAPAs) allow LDCs to identify priority activities that respond to their urgent and immediate needs to adapt to climate change.

[31] Development Gateway's Aid Management Platform (AMP) is a web-based application that enables governments and their development partners to better manage and coordinate development assistance by improving and streamlining the processes for planning, monitoring, coordinating, tracking and reporting on international aid flows and activities.

[32] The case study team traveled to Malawi in March 2011 and conducted 17 interviews with major donors, nongovernmental organizations (NGOs), and select government ministries. In order to better understand adaptation efforts on the ground, the case study team also visited several sites, where international organizations are implementing adaptation projects. This report also draws from an extensive list of existing literature and project documents on climate change in Malawi.

[33] Ministry of Mines, Natural Resources, and Environment, *Malawi's National Adaptation Program of Action* (Lilongwe: Environmental Affairs Department, 2006).

[34] Busby et al., *Locating Climate Insecurity*, 2010.

[35] Malawi is ranked 153 out of 169 in the 2011 United Nations Human Development index. It ranks 18 of 104 (opposite scale) in Oxford's Multi-dimensional poverty index. The deforestation rate in Malawi is among the highest in Africa at 2.8 percent annually (see Michael Wines, "Malawi is Burning, and Deforestation Erodes Economy," *The New York Times*, November 1, 2005). Malawi ranks 14th for most cases of HIV/AIDS.

[36] C. McSweeney, M. New, and G. Lizcano, *UNDP Climate Change Country Profile: Malawi* (Oxford University, 2008).

[37] Ibid.

[38] John Magrath and Elvis Sukali, *The Winds of Change: Climate Change, Poverty and the Environment in Malawi* (Lilongwe: Oxfam International, 2009).

[39] M. Fisher, M. Chaudhury, B. McCusker, "Do Forests Help Rural Households Adapt to Climate Variability? Evidence from Malawi," *World Development* 38(9): 1241-1250.

[40] Poul Wisborg and Charles Jumbe, *Mulanje Mountain Biodiversity Project: Mid-term Review for the Norwegian Government, Noragric Report No. 57* (Norway: Department of International Environment and Development Studies, 2010).

[41] Magrath and Sukali, *The Winds of Change*, 2009.

[42] Agricultural Production Estimates (APES), FEWSNET from USAID, and the Malawi Vulnerability Assessment Committee (MVAC).

[43] Sabina Alkire and Maria Emma Santos, *Oxford Poverty and Human Development Initiative*, 2010. Available at: www.ophi.org.uk/policy/multidimensional-poverty-index/.

[44] UNAIDS, *2008 Report on the Global AIDS Epidemic* (Geneva: Joint United Nations Programme on HIV/AIDS, 2008).

[45] Busby et al, *Locating Climate Insecurity*, 2010; Raleigh and Jordan, 2008; Levy et al, 2008; Nick Brooks, W. Neil Adger, and P. Mick Kelly, "The Determinants of Vulnerability and Adaptive Capacity at the National Level and the Implications for Adaptation," *Global Environmental Change* 15, 2 (2005): 152; Magrath, 2009.

[46] Magrath and Sukali, *The Winds of Change*, 2009; and Ministry of Mines, Natural Resources, and Environment, *Malawi's National Adaptation Program of Action*, 2006.

[47] Fisher, 2010; Sara J. Scherr, S, "A Downward Spiral? Research Evidence on the Relationship between Poverty and Natural Resource Degradation," *Food Policy* 25 (2000): 479–498.

[48] Stuart Gillespie, ed., *Aids, Poverty, and Hunger: Challenges and Responses. Highlights of the International Conference on HIV/AIDS and Food and Nutrition Security*, Durban South Africa, April 14-16, 2005 (Washington: International Food Policy Research Institute, 2006).

[49] Edward R. Carr, *Delivering Development: Globalization's Shoreline and the Road to a Sustainable Future* (New York: Palgrave Macmillan, 2011).

[50] Sabina Alkire and Maria Emma Santos, *Oxford Poverty and Human Development Initiative*, 2010. Available at: www.ophi.org.uk/policy/multidimensional-poverty-index/.

[51] World Bank, *World Development Indicators*, 2009.

[52] Ministry of Mines, Natural Resources, and Environment, *Malawi's National Adaptation Program of Action* (Lilongwe: Environmental Affairs Department, 2006).

[53] Ibid.

[54] Ibid.

[55] Danish International Development Agency, *Napa Process Country Case Study – Malawi 2009* (Denmark: Danish International Development Agency, 2009).

[56] Ibid.

[57] Ibid.

[58] The climate atlas will use historical climate observations combined with future projections to provide a user-friendly tool for determining which areas are most likely to experience future climate shocks.

[59] Ministry of Development Planning and Cooperation, *National Program for Managing Climate Change in Malawi 2009* (Lilongwe: Government of Malawi Ministry of Development Planning and Cooperation, 2009).

[60] All figures from AidData are USD 2000.

[61] Figures from the World Bank Indicators reflect Official Development Assistance and are in USD.

[62] Malawi Ministry of Finance, Aid Atlas FY 2009/10 (Lilongwe: Malawi Ministry of Finance, 2010), 61.

[63] Malawi Ministry of Finance, Aid Atlas FY 2009/10, 33.

[64] International Aid Transparency Initiative, *IATI Country Pilot Report, Malawi* (International Aid Transparency Initiative, 2010), 2.

[65] Development Initiatives, *Aid Information in Malawi: Aid Info Project Case Study* (Wells: Development Initiatives, November 2008), 13.

[66] International Aid Transparency Initiative, *IATI Country Pilot Report, Malawi*.

[67] Development Initiatives, *Aid Information in Malawi*, 12.

[68] This work, carried out in the spring 2011, was based upon short project descriptions available through the OECD. The CCAPS team later expanded this work by gathering full project documents directly from donors in Malawi, as identified in the Aid Management Platform hosted by the Malawian Ministry of Finance. This later work represents a much more rigorous coding effort, for which the results are reported in later CCAPS policy briefs (see Catherine Weaver and Christian Peratsakis, *Can Better Tracking of Adaptation Aid*

*Reduce Climate Change Vulnerabilities on the Ground? CCAPS Research Brief No. 2* (Austin: Strauss Center for International Security and Law, November 2011).

[69] The first two projects were classified as adaptation projects by the CCAPS coding methodology. The second two projects were implemented after 2008 and therefore were not included in the analysis.

[70] Global Environment Facility, *Malawi: Climate Change Adaptation for Rural Livelihoods and Agriculture* (CARLA), Project Document (Washington: Global Environment Facility, 2010).

[71] United Nations Development Program, *Project Information Sheet: Building Capacity for Integrative Comprehensive Approaches to Climate Change Adaptation in Malawi* (United Nations Development Program, 2010).

[72] Department for International Development, *UK Fast Start Climate Change Finance* (United Kingdom: Department for Energy and Climate Change and Department for International Development, 2011).

[73] A methodology for doing this was later developed by the CCAPS team and piloted in Malawi. See Catherine Weaver, Justin Baker, and Christian Peratsakis, *Tracking Climate Adaptation Aid: Methodology, CCAPS Research Brief No. 5* (Austin: Strauss Center for International Security and Law, September 2012).

[74] Stadelmann et al., *Baseline for Trust: Defining 'New and Additional' Climate Funding* (London: International Institute for Environment and Development, 2010).

[75] USAID, *Malawi Fact Sheet: FY 2008-11*.

[76] World Bank, *World Development Indicators*.

[77] AidData. Available at www.aiddata.org.

[78] "Prime Minister Meles Zenawi Addresses the COP15 on behalf of Africa," *African Press Organization*, December 17, 2009.

[79] "African Union Conference Confirms Zenawi as Coordinator of the African Conference on Climate Change," International Institute for Sustainable Development, February 5, 2010.

[80] See The World Bank Group, *Economics of Adaptation to Climate Change* (Washington: The World Bank Group, 2010); Temesgen Tadesse Deressa, Claudia Ringler, and Rashid M. Hassan, *Factors Affecting the Choices of Coping Strategies for Climate Extremes: The Case of Farmers in the Nile Basin of Ethiopia* (Washington: International Food Policy Research Institute (IFPRI), 2010); *The Rain Doesn't Come On Time Anymore: Poverty, Vulnerability, and Climate Variability in Ethiopia* (Oxford: Oxfam International, 2010); Joshua Busby et al., Locating Climate Insecurity, 2010.

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